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13 AND 14 NOVEMBER

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122

COMPANIES
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26

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RIGGING REVIEW:
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extreme
environments

PRODUCT FOCUS:
Self-erecting
tower cranes

INDUSTRY FOCUS:
Training and
simulators

Art and science

Multi-crane jobsites
are a challenge

SHOW GUIDE
ICUEE
Show Guide
p43

Link-Belt's 120 ton Rough Terrain Crane is off the charts!



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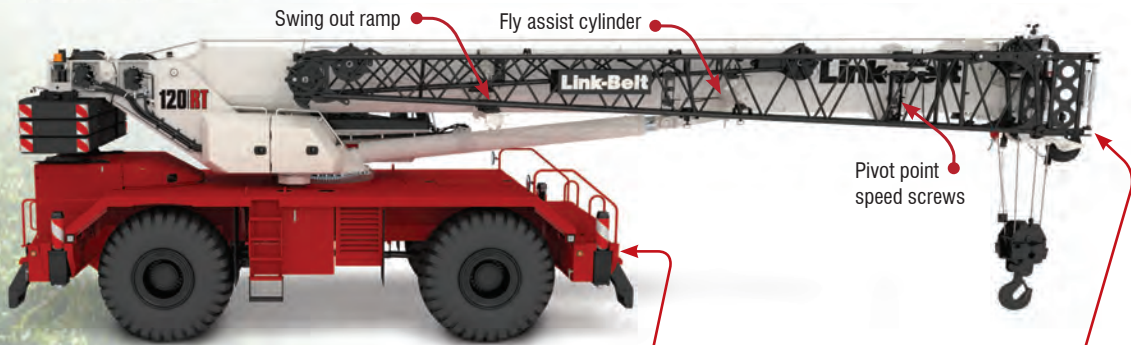


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- Strongest pin & latch boom in its class
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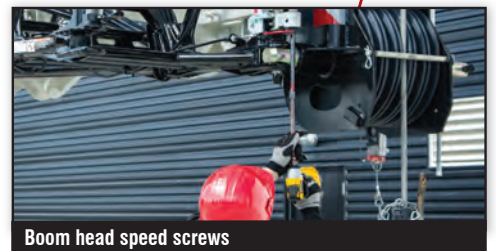


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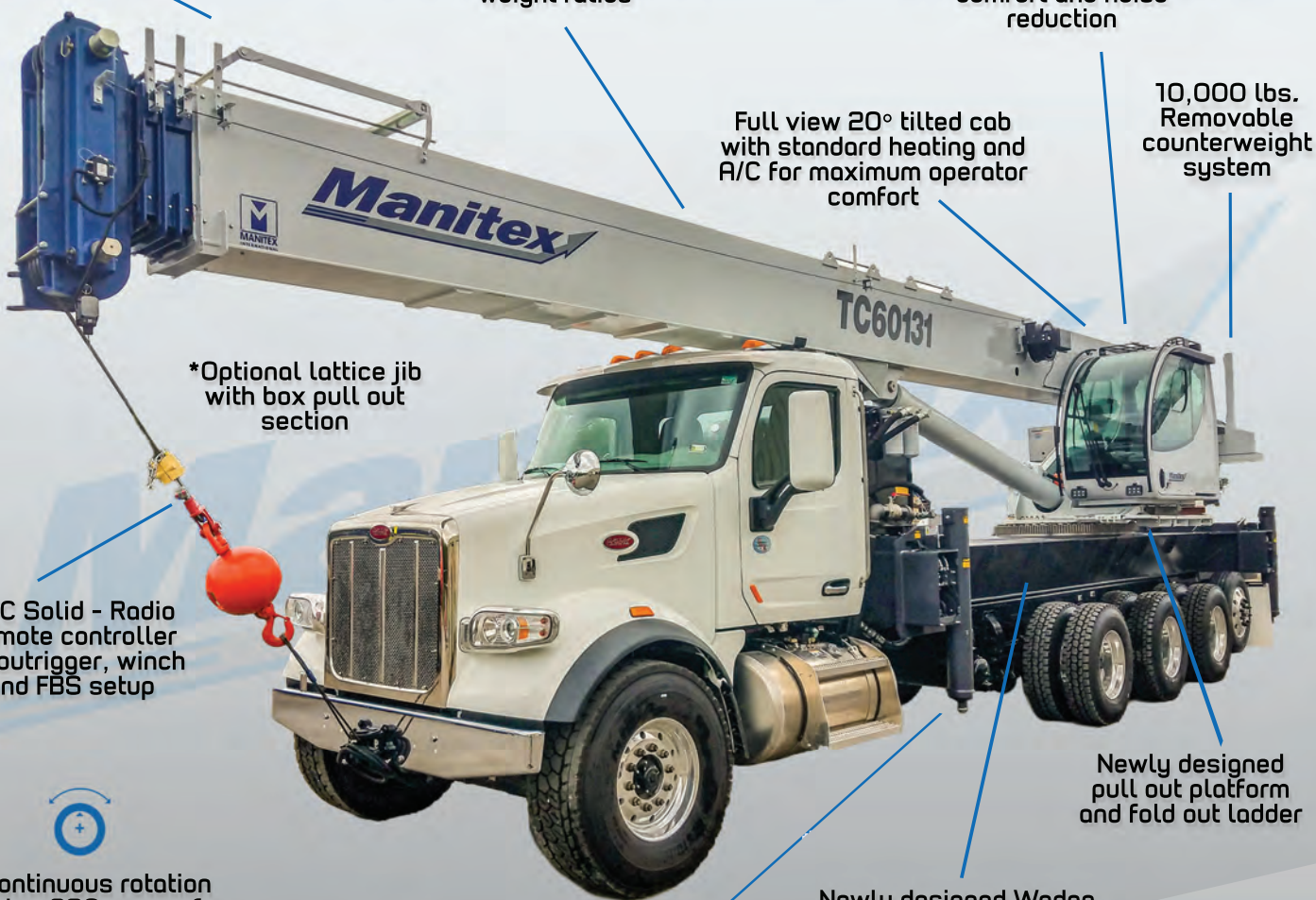


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and fold out ladder



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Busy fall

As this issue went to press, the ACT team was in Phoenix at the SC&RA Crane & Rigging Workshop. From there, three of us headed to Louisville, KY for ICUEE. The next week Bev O'Dell and I will attend Breakbulk in Houston while Hannah Sundermeyer and Matt Burk will travel to Longview, TX for a Lift & Move event at Boss Crane and Rigging. In November, Matt and I are off to Amsterdam to attend the World Crane & Transport Summit (see our preview on page 13). SC&RA CEO Joel Dandrea said the WCTS is a part of the Association's global outreach.

"The reality is our 2019 to 2024 strategic plan calls for maintaining and expanding our international presence, which we have worked hard to do over the years," he said. "The WCTS is one of the international programs that enables us to gather with industry leaders around the world for a few days of education and networking. It's always proved to be an effective outreach, and we look forward to being involved and being a partner host."

At the first WCTS back in 2007, SC&RA worked with several global entities to establish the World Crane & Transport Alliance, (WCTA) which enabled a dialogue and exchange of information on best practices and a host of other issues pertinent to our industry. The WCTA includes SC&RA, ESTA in Europe, CRAC in Canada, Sindipesa in Brazil, CICA in Australia and the New Zealand Heavy Haul Association.

"While we don't meet on a frequent basis, these organizations do exchange information with regard to the trends, best practices and issues within our respective regions," said Dandrea. "Many times, we have provided information that really helped facilitate change and improvements in respect to global markets. While the alliance is loosely organized, the spirit of it is strong and we have regular exchanges with our counterparts around the world. We attend and participate in each other's meetings, events and functions. It's a very important alliance and helps the free-flowing exchange of ideas and information from the standpoint of safety, efficiency and operations around the world."

The October issue is full of interesting articles, including the use of simulators in training, the value of apprenticeship programs and a roundup of the latest self-erecting tower cranes. Our Project Digest profiles a few multi-crane jobs, and our Interview is with Zak Hilliard, market manager for boom trucks for Altec. Also don't miss our ICUEE Show Guide starting on page 43.

And finally, we have two site reports, one about Alamo Crane Services lifting and hauling a transformer and one about Empire Crane rescuing a Chicago Fire Department fire truck. And speaking of job stories, why don't you send us one of yours?

D. ANN SLAYTON SHIFFLER

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Igo T 70 A

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Tip Capacity: 1.59 USt at 131.2 ft

Max Radius: 131.2 ft

Height Under Hook: 114.8 ft

Igo T 85 A

Max Capacity: 6.6 USt

Tip Capacity: 1.54 USt at 147.6 ft

Max Radius: 147.6 ft

Height Under Hook: 124.7 ft

Igo T 130

Max Capacity: 8.8 USt

Tip Capacity: 1.54 USt at 164 ft

Max Radius: 164 ft

Height Under Hook: 122.4 ft

Potain Igo T range benefits include:

- Variable height and jib configurations adapt to any jobsite requirement
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Contact your local dealer and learn how a Potain Igo T Series self-erecting tower crane can REVOLUTIONIZE your business. Visit www.manitowoc.com and select 'dealer locator'.



Bigge Crane and Rigging has several tower cranes working on a project in Silicon Valley in Northern California. See our Project Digest on page 30.



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■ Venturo, a leading producer of truck- and van-equipped cranes, announced a new distribution partnership with Halrai of Quebec. The Canadian equipment dealer will distribute the entire line of Venturo products with a focus on fully hydraulic cranes.

■ The U.S. Department of Transportation announced the first recipients of the Competitive Highway Bridge Program. The program sets aside \$225 million to fund bridge improvement and replacement projects in rural areas. Some 20 projects represented by 18 state departments of transportation have received funding.

■ Manitex International has expanded its articulating crane distribution network to include Cropac Equipment Inc.

■ Hyva has developed a new extended warranty package for its new EDGE Line cranes that run three and five years.

■ SC&RA, as part of the Federal Highway Administration's Emergency Route Working Group (ERWG), submitted recommendations to the U.S. Secretary of Transportation. The Group has met over the past 3 years since Congress enacted the transportation authorization law titled "Fixing America's Surface Transportation Act." The law required the Department of Transportation to create the Group.

Maxim acquires Solley Equipment

Maxim Crane Works has entered into an agreement to acquire Solley Equipment & Rigging. The combination of Solley Crane and Maxim Crane enhances Maxim Crane's full-service, nationwide crane rental and lifting solutions platform and expands its operations in one of the nation's key geographic regions, the company said.

"The Solley Crane merger

provides access to one of the most experienced teams of crane professionals in the region," said Bryan Carlisle, CEO, Maxim Crane. "They have an outstanding reputation and their fleet provides customers with a 'best in class' brand of products, parts, services and rental equipment. We are excited about this amazing combination and look forward to providing our team

members and customers with the additional geographic coverage and services that Solley Crane and its team bring to our company."

"Solley Crane was started by my father, Ray, and the business has been the heart and soul of our family and employees for nearly 50 years," said Ronnie Solley, owner, Solley Crane. "This merger will ensure that our employees, families and customers continue to enjoy the type of service, safety and commitment that they have had in the past and guarantee that our business will continue for the next 50 years and beyond. We know the Maxim Crane team extremely well and believe that this is a perfect combination that will allow both teams to thrive by working together toward common goals of safety, service and success."

Solley has locations in Nashville, TN, Decatur, AL and Huntsville, AL.



Maxim Crane will acquire Solley Crane, which has three locations, one in Tennessee and two in Alabama.

\$4.5 million articulating crane contract

Manitex International announced a new contract valued at approximately \$4.5 million dollars to supply knuckle boom cranes to an international military entity. Initial production is anticipated to start in early 2020, and the contract provides for an optional \$4 million in additional deliveries.

This custom ManiTex knuckle boom crane has been engineered and configured to the customer's demanding specifications and has passed a thorough performance testing protocol which lasted

several months and included heavy off-road durability and strength testing by the customer.

"We are proud to receive this contract from one of the world's leading military organizations who maintains very stringent and demanding product specifications for their operations in the field," said Randy Wingenroth, senior vice president, articulating cranes, ManiTex International. "This contract award provides a solid foundation for military production of articulating cranes at our Georgetown,



Manitex has long produced cranes for military entities.

Texas plant and further supports our growth plans for this location. We look forward to providing equipment that supports the safety, security and success of our country's and our allies' servicemen and women, here and abroad."



Mammoet loaded and unloaded a crane body from the vessel Cassiopeia Leader.

Mammoet aids zero-emissions delivery

Mammoet assisted with the transport of a zero-emission mobile harbor crane from the Port of Bremerhaven, Germany, to the Port of Hueneme in California. The hybrid crane was purchased by the Port of Hueneme as part of their long-term vision to move to zero emission cargo handling. One of the steps towards this vision is to use this crane to deliver the world's first "zero-emission ship-to-store avocado."

The Port of Hueneme is part of an initiative to reduce the carbon impact of transporting avocados to California, which currently results in a large carbon footprint. Grown in South America, they are shipped under temperature-controlled conditions, resulting in high carbon emissions. The Port's new hybrid crane, a Liebherr LHM420 harbor mobile crane, runs on electricity.

Mammoet was contracted to assist NYK Line to load and unload the German-manufactured crane body onto the vessel Cassiopeia Leader. Mammoet moved the under carriage of the dismantled harbor crane from the quay side at the Port of Bremerhaven onto the roll-on/roll-off vessel. Once it had arrived in the U.S. a Mammoet team transported the 107-ton under carriage onto the quay side at the port in California.

A1A Software rolls out new 3D Lift Plan enrichments

A1A Software has introduced five new web tools for task-specific lift planning activities in 3D Lift Plan.

"These tools enable users to input or gather important lift planning information without creating a full lift plan," said Tawnia Weiss, president, A1A. "For on-the-go, in-the-field decision making, these web tools provide quick, accurate information accessible from a tablet or other mobile device, that can later be integrated into a full lift plan."

The new tools will feature Sketch Pad, which allows estimators, project managers or others involved in initial job bidding or lift planning to draw on screen using their finger and Crane Comparison which users to compare up to 10 crane load charts at a time. "Information displays

A1A Software LLC has introduced five new web tools for task specific lift planning activities in 3D Lift Plan.

graphically, for an easy visual reference of the capacities at various working ranges," explained Weiss. "The tool is ideal for salespeople who are working with customers to identify the most cost-effective option that can get the job done."

In addition the new web tools also include Load Chart Viewer, which takes information in traditional load charts and presents them in a visual infographic presentation; Crane Loads Calculator allowing users to determine maximum outrigger loads for the specific crane configuration without creating a full 3D



Lift Plan; and Mat Calculator, which will likely be used in conjunction with the Crane Loads Calculator, allows users to select the appropriate outrigger pads or crane pads for the allowable ground bearing pressure. ■

Duffy beefs up fleet with new Demag AC 220-5 AT

Duffy Crane & Hauling is expanding its mobile crane fleet with the addition of a new Demag AC 220-5 all-terrain crane. The Duffy team

commissioned its new crane and has already put it out in the field performing several challenging projects. The 5-axle crane is one of several Demag all-terrain crane models that the locally owned and family operated company owns.

"Our team is thrilled with the way the new Demag AC 220-5 all-terrain crane has performed," said John Krane, director of operations, Duffy. "It has been a great unit for us and our customers. We're committed to being responsive to the needs of

our customers. This new model is fast and easy to transport, it rigs quickly and it can handle a wide range of lifts."

Duffy's new 245-ton capacity Demag AC 220-5 all terrain crane features the longest main boom in its class at 255.9 feet, which can be extended fully to 324.8 feet with boom extensions. It is designed with the Demag single-engine concept with an intelligent motor management system that helps reduce operational and maintenance costs, the company said. The crane also has all-axle steering, independent rear axle steering and dynamic launch control. ■



Duffy Crane & Hauling has purchased a new Demag AC 220-5 all-terrain crane.



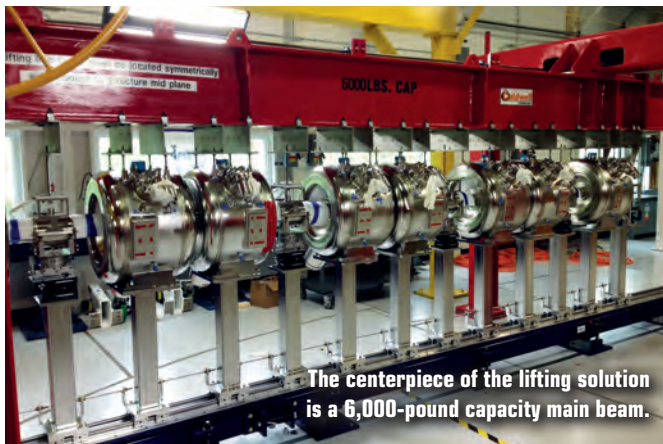
Diversified Industrial Rigging has changed its name to ProLift Rigging Company.

Diversified Industrial now ProLift Rigging

Effective immediately, Diversified Industrial Rigging has changed its name to ProLift Rigging Company.

"The name change reflects the growth and enhancement of our company and services," said Nate Harper, marketing coordinator for ProLift. "Our commitment to being the best for our customers remains unchanged. Our customers are looking to seize opportunity in an environment of complexity, misinformation, and distraction."

He said the company was founded on the principle of being a trusted advisor and partner to help customers overcome obstacles and achieve success, "resulting in a safe and profitable project that exceeds their expectations. Our pledge always to be proactive, proficient and professional."



The centerpiece of the lifting solution is a 6,000-pound capacity main beam.

Out-and in: heat exchanger challenge

Hill Crane & Rigging (HCR) used a 500-ton capacity heavy-track HT500 hydraulic skidding system from Hydra-Slide to change-out a stacked heat exchanger at Carson Refinery in California. HCR's scope of work covered the emergency removal of a 260,000-pound stacked heat exchanger and its replacement with a new 279,000-pound unit. Major obstructions, a tight schedule and project delays inherited from other contractors were major challenges. The Hydra-Slice HT500, engineered 100-ton capacity modular support stands and Hydra-Pac synchronous hydraulic power unit, were used alongside additional equipment from HCR's diverse fleet.

The full scope of work



Both heat exchangers weighed in excess of 250,000 pounds.

included transportation of the old exchanger to its manufacturer, transportation of the new 27-foot 6 inch by 7-foot 6 inch by 15-foot exchanger to the refinery and final installation in the same position as the original.

HCR also employed a 500-ton capacity Enerpac gantry to load and offload the exchangers on a dual lane, eight-line trailer.

Caldwell produces device for SSR1

The Caldwell Group developed a customized lifting device for assembly of cryomodules at the Fermi National Accelerator Laboratory (Fermilab) in Batavia, IL. The project was awarded to Caldwell distributor John Sakash Company, also in Illinois.

The process requires precision assembly to build SSR1 cryomodules (sections of modern particle accelerators) for its Proton Improvement Plan-II (PIP-II), an essential upgrade to the Fermilab accelerator complex.

The Caldwell system offers multiple configurations and can be raised and lowered with surgical accuracy by a hand-wheel. The centerpiece of the solution, which meets the ASME B30.20 BTH-1 standard, is a 6,000-pound capacity main beam, while two 1,500-pound extension beams can be added. All three beams span 371 inches and can be adapted to suit assembly processes. Cryomodules are positioned on a track directly beneath the beam(s) and tooling positions components beneath lifting points.

SEAA is expanding its relationship with technical and community colleges in order to bring NCCER accredited testing for craft professions, including the SEAA/NCCER ironworker program, to students in local communities. The partnership allows colleges to become members of SEAA, giving them access to the SEAA/NCCER Ironworker Craft Training program and other NCCER craft curriculum and assessments.



Microcranes, a producer of portable battery power mini cranes since 2008, now offers a wireless remote-control solution option for the 2,000-pound rated, 21 foot hook height M1 Global Model pick and carry crane used indoors, outdoors and on rooftops.

HIGHLIGHTS

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Murray Pollok previews
the 7th World Crane
& Transport Summit in
November in Amsterdam.

In the know

Knowledge is all-important when it comes to success in business. That idea is almost a cliché, but it assumes greater weight in the context of cranes and specialized transport, with projects of unimaginable complexity and where the implications of failure are so high.

The importance of knowledge in making a business more efficient and reducing risks is the guiding principle behind the program for the World Crane and Transport Summit that will be held November 13-4 in Amsterdam.

At the conference, global industry experts will consider demanding projects, safety strategies, operator training developments and end-market trends. There will also be room for fresh perspectives.

That would be a good description for the presentation being given by Erich Sennebogen, managing director at Sennebogen Maschinenfabrik. He will give the OEM keynote to open the second day. Sennebogen, the son of the company founder, will present "Drawing Parallels Between Cranes and Reaction Ferries," looking at the role of proven technologies in an era of fast-changing technology.

"In the past 50 years cranes have encountered technological changes that shift more and more towards software



Erich Sennebogen, managing director at Sennebogen Maschinenfabrik, will give the OEM keynote.

and sensors," Sennebogen said. "Yet, new technologies can impact on core values like machine reliability and availability. Progress can create unfavourable trade-offs. One of the key questions will be how the machine operator will remain in control of the crane – or if the machine will slowly take over control. My speech will reflect on these questions, and I will try to remind delegates about some proven technologies that might not become obsolete as fast as current debates would have us believe."

The safety factor

Safety is a key topic and will be approached from multiple angles – from the view of engineers working on a massive nuclear power project, from a corporate policy perspective and on how to learn from other safety-critical industries.

Two engineers from the Hinkley Point C nuclear power station construction project in the UK – Ashley Daniels, head of lifting and temporary works at EDF Energy, and Garrick Nisbet, head of lifting assurance at consultant Notus Heavy Lift Solutions and lifting manager at Hinkley – will give an inside view of lift planning and safety procedures being used at the site.

Sarens assembling its SGC 250 super heavy lift crane at Hinkley Point C in the UK.



(PHOTO: EDF ENERGY)

The \$24.3 billion HPC power station is one the largest civil engineering sites in Europe, with 4,000 workers employed. Among the numerous cranes on site is Sarens' SGC 250 which, at 5,000 metric tons capacity, is one of the largest land-based cranes in the world. Speaking separately, Gert Hendrickx, sales director for projects at Sarens, will consider the wider challenges for heavy lift and specialized transport companies working on major energy projects.

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**WORLD CRANE
AND TRANSPORT
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AMSTERDAM, NETHERLANDS
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WHERE: NH Grand Hotel Krasnapolsky, Amsterdam, Netherlands

ORGANIZERS: KHL Group, *International Cranes and Specialized Transport*, *American Cranes & Transport*

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Fabio Belli to give keynote

Fabio Belli, CEO of Italian heavy lift and transport company Fagioli, will give a keynote speech at the World Crane and Transport Summit on November 13.

Belli, who has worked at Fagioli for 18 years and for more than six years as its CEO, is a senior figure in the lifting and specialized transport sector worldwide. He leads a company with a reputation for innovation and which has carried out many high-profile projects, including in recent years the re-floating of the Costa Concordia cruise ship.

Fagioli operates worldwide and has more than 20 offices in Europe, Asia and the Americas.



The safe choice

Safety in the corporate context will be covered by Peter Gibbs, chief operating officer at Ainscough Crane Hire. Gibbs will explain how safety is integral to business practice at the UK's largest rental company for wheeled mobile cranes. "Make the Safe Choice" is Ainscough's policy framework for the safety of its people, its customers and members of the public.

"It is about engaging all colleagues in following the safe system of work, awareness and understanding of potential dangers, and responding appropriately," Ainscough said. "In practice it means that if employees are ever in doubt, they are empowered and expected to stop and make the safe choice about what they are doing."

Blanca Claeysens, a former airline pilot and instructor turned safety and insurance specialist, will highlight safety strategies from the aviation industry that can be applied in heavy lifting and specialized transport. Claeysens, managing director at ASA France, has more than 20 years' experience in aviation, flying Boeing 737 and 767 aircraft and training cockpit and



cabin crews on safety techniques. She will focus on aviation best practices and outline the importance of communication, demonstrating the implications when situational awareness is lost during a project.

Wind turbine sector

There will also be a focus on safe construction techniques in the onshore wind turbine sector. ESTA will soon publish a core best practice guide for lifting and transportation on wind projects. David Collett, ESTA president and managing director at UK transport

Keith Settle, CEO at Oxbo Mega Transport Solutions, will discuss a wind turbine transport project in Oklahoma.

company Collett & Sons, will use the Summit to outline the guide, which is expected to include subjects such as common standards for access roads and the methods of calculating the ground-bearing pressure and construction features for crane pads.

To complete the wind turbine session, Keith Settle, CEO at Oxbo Mega Transport Solutions, will provide a U.S. case study, "The Mountain," a wind turbine transport project the company undertook in Oklahoma. The project included one of the first applications in North America of Goldhofer's blade lifter.

Other speakers and topics include an update on the ECOL operator training initiative and a global overview of energy trends.

Another senior consultant, Chris Sleight, managing director at Off-Highway Research, will give a presentation on global trends in the demand for mobile cranes, including forecasts for major markets.

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Although stock markets have fallen away from their mid-summer highs, they remain buoyant against a backdrop of broadly positive news.

ACT's Heavy Equipment Index (HEI) tracks the performance of eight of America's most significant, publicly-traded construction equipment manufacturers – Astec Industries, Caterpillar, CNH Industrial, Deere & Company, Joy Global, Manitowoc and Terex.

A market lull

There were some concerns around mid-year economic data that might have pushed the markets down. Job creation in August was not as good as some expected, with manufacturing looking weak. In addition, the trade war between the U.S. and China simmered on, although there were no new developments.

However, the positives tended to outweigh the negatives. Strong wage growth, a steady unemployment rate and strengthening oil prices all pointed to good economic health. In addition, expectations grew that July's interest rate cut would be followed by a further quarter point reduction in September – the decision was due when ACT went to press.

Although the positives outweighed the negatives, the markets lacked a strong overall direction. Indicators are certainly mixed and that can make for volatile market movements, with small snippets of fairly

inconsequential news having the power to tip sentiment one way or the other.

The picture is a little clearer in the heavy equipment segment, as represented by the ACT Heavy Equipment Index (HEI). While the mainstream indicators have had their ups and downs this year and are more or less level with where they were 12 months ago, the ACT HEI looks more emphatically in decline. It has risen and fallen with the major indicators, but the downs have generally been deeper and the ups less pronounced. As a result, it is around 8 percent lower than it was a year ago.

Peak reached?

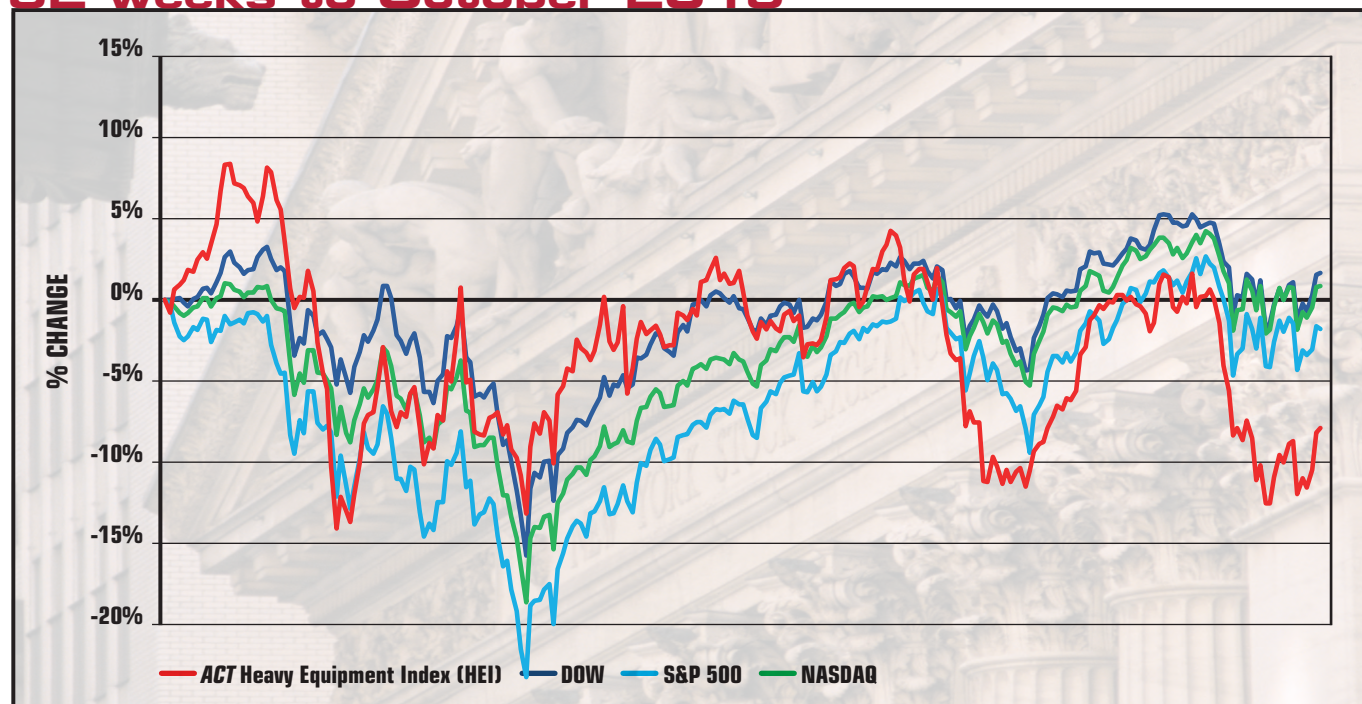
There is a much clearer sense in this industry that the global cycle has passed its peak. New data from specialist forecasting and market research company Off-Highway Research says global sales of construction equipment will fall 3 percent this year, with the decline sharpening in 2020 and 2021. However, it points out that the

last two recessions have been more severe than this and that volumes this time around are expected to stay at good levels.

That relates more to revenues than profits, and it is profitability that drives share prices. So against this backdrop, the ACT HEI is on a downward trajectory. Its cyclical peak was in January 2018, and since then it has lost about 20 percent of its value. The index has been fairly volatile over the last six months, with swings of as much as 15 percent per month, so it is hard to be exact about the magnitude of the decline.

Again, volatility and this fairly moderate downturn (in share price terms) points to a bit of a lack of clear sentiment. Although equipment sales are falling worldwide, investors are struggling to quantify the size of the downturn and what it means for corporate profitability. As ever, the fall results season and corporate outlooks will be important for setting the tone in the final quarter of the year. ■

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to push forward,
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and contribute
to the success
of our customers
worldwide.

Providing ever-evolving solutions

Altec Industries' **Zak Hilliard** is committed to providing solutions to evolving customer challenges. Altec is celebrating its 90th anniversary this year. **D. Ann Shiffler** reports.

Altec Industries is celebrating an important milestone this year. The company is 90 years old, and it's still owned by the family that started it in 1929.

It takes more than just resilience and longevity for a company to make it to 90 years. Zak Hilliard, boom truck market manager for Altec, said it has to do with values, placing the customer first and considering employees to be the company's greatest strength.

Market still strong

Hilliard has direct responsibility of marketing Altec's boom truck product line. He started with Altec in 2010, and after nearly a decade of experience in engineering and manufacturing, became the market manager for boom trucks. He previously was a project manager for the engineering team and a manufacturing engineer at the company's manufacturing facility.

The boom truck market is a tricky one, and Altec continues to navigate it with a

product line that is safe, high quality and that enjoys extreme customer loyalty. For now, the boom truck market is pretty good, Hilliard said.

"Over the last three or four years, the market has seen steady growth and an increase in demand for boom trucks in all market segments."

WHAT ARE CUSTOMERS LOOKING FOR IN A BOOM TRUCK?

Our customers continue to challenge us to provide solutions for their ever-evolving needs. Our goal is to offer products and services to the market that help our customers increase their ability to work safely and efficiently.

WHAT IS THE EVOLUTION OF THE ALTEC BOOM TRUCK LINE?

Over the years, the Altec boom truck line has expanded to offer products generated out of customer demand and feedback. Our team will build upon this as we continue to listen to our customers to find out what they need to do their best on the jobsite.

WHAT DISTINGUISHES THE ALTEC BOOM TRUCK IN THE MARKETS IT SERVES?

In general, Altec prides itself in ensuring the products we launch into the market are among the best safety solutions available. Our boom trucks are no exception to that. When a customer buys an Altec boom truck, he or she can rest assured that a tremendous amount of time and effort goes into designing, testing and building their equipment.

“Our customers continue to challenge us to provide solutions for their ever-evolving needs. Our goal is to offer products and services to the market that help our customers increase their ability to work safely and efficiently.”

ZAK HILLIARD,
Market Manager Boom
Trucks, Altec Industries





The utility market is a primary focus of Altec Industries, which always has a huge presence at the International Construction & Utility Equipment Exposition that is being held in Louisville, KY this month.

Altec provides the safest solutions available and the best value in the market through standard features such as the LMAP (Load Moment and Area Protection) system, outrigger boom interlocks, two-man steel platform and an optional dual rating on certain models.

ALTEC HAS BEEN AN INNOVATOR IN TELESCOPIC BOOM TRUCK CRAWLERS WITH ITS AC40-152S-TC. WHAT HAS BEEN THE RECEPTION TO THIS PRODUCT LINE? WHAT ARE THE MARKETS FOR THESE CRANES?

Some of our customers let us know that they were having trouble accessing areas with a rough terrain crane. The track carrier version of our cranes is the solution to this problem. In addition to the AC40-



152S-TC, we're excited to showcase the AC45-127S-TC at this year's ICUEE show at the Prinoth booth.

ALTEC IS CELEBRATING ITS 90TH ANNIVERSARY THIS YEAR. WHAT FACTORS CONTRIBUTE TO THE LONGEVITY OF THE COMPANY? CORE VALUES? FAMILY MANAGEMENT?

Since 1929, Altec has been a company committed to excellence. The values we hold – customer first; enjoyment of work; family; financial stability; integrity; people are our greatest strength; quality; spiritual development; and teamwork – are integral to our success.

Additionally, our products are the industry leaders and consistently raise the bar through innovative product design, integrated safety features and continued dedication to total customer satisfaction. Although we've evolved and grown as a business, we never forget our present is a direct product of our past.

WHAT IS IT ABOUT THIS JOB AND THIS INDUSTRY THAT KEEPS YOU ENGAGED?

Altec's associates are continuously focusing on meeting and exceeding our customers' expectations. This dedicated focus allows all of our associates, including myself, to consistently engage and seek solutions to help our customers solve real-

Altec Industries will showcase the AC45-127S-TC telescopic track carrier crane and (inset) roll out the new AC30-53T boom truck.

“Our products are the industry leaders and consistently raise the bar through innovative product design, integrated safety features and continued dedication to total customer satisfaction.”

Ninety years ago, Altec was founded by the Styslinger family in Birmingham, Alabama. From the beginning in 1929, Altec was a company based on values that place the customer first and view people as its greatest strength, according to Zak Hilliard, Altec boom truck market manager.

“The Styslingers continued to grow the company utilizing these same basic principles, which over the years have helped us earn the trust and confidence of our customers,” he said.

Birmingham is home to Altec's original 1929 truck body manufacturing facility, which continues to design and build custom bodies to the specifications of Altec customers.

Today, Lee Styslinger, III leads Altec as chairman and CEO. A leading provider of products and services to the electric utility, telecommunications, tree care, lights and signs and contractor markets, Altec delivers products and services in more than 100 countries throughout the world.

Altec Inc. is the holding company for Altec Industries, Global Rental, Altec NUECO, Altec Worldwide, Altec Capital and Altec Supply.

world problems with the products and services we provide.

ALTEC ALWAYS HAS A HUGE PRESENCE AT ICUEE. WHAT ARE THE COMPANY'S GOALS FOR THIS TRADE SHOW?

At ICUEE, our goal is to engage with our customers as we showcase a wide array of products and services. Spending time with our customers allows us to learn how we can better serve them in all areas of our company.

ABOUT ALTEC

When working in

Understanding how cold temperatures and marine environments impact the safety of steel lifting equipment.

All lifting equipment is affected by the environment at all stages of its lifetime. Two extreme environments we face in the lifting and material handling industry are cold weather and marine environments. Just in the United States, more than a third of the population live in counties directly on the shoreline, and if you take the population residing within 100 miles of the coast that number doubles. Corrosion is a challenge in costal and marine environments as well as in industrial plants and buildings with high humidity.

Freezing temperatures are a factor in more than half of the states in the U.S. and all of Canada. Consequently, both environments become an important aspect to consider when designing, manufacturing, procuring and using lifting and material handling equipment. Founded in Sweden more than 250 years ago, Gunnebo Industries has designed and manufactured lifting equipment that is used on everything from offshore platforms in the Gulf of Mexico to fishing vessels operating in Arctic climates. The company has built leading know-how in combating the challenges of lifting in extreme environments.

THE AUTHORS

This article was compiled by the Gunnebo Industries/Crosby Group team of **Özkan Kosmaz**, R&D manager, Metallurgical Engineer, MSc.; **Ernie Lutter**, president and engineering vice president, P.E., MEngME; and **Felix Nyberg**, global product manager, industrial engineer, MSc.



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Frigid temperatures can greatly affect lifting equipment, which is why it's important to take proper consideration in the selection, procurement and use of rigging gear and cranes.

Frigid temps

What do manufacturers consider cold temperature? Once the ambient temperature drops below freezing (32° F or 0° C), equipment will be affected. Today's equipment is commonly designed to work down to -4° F (-20° C), and equipment specifically designed for cold weather may even be designed to work in -40° F (-40° C). Below -40° F (-40° C) there is a significant risk of parts of the system not being designed for this environment as there are many components in a lifting system that are affected in cold temperature: fluids, structural or load-bearing steel, electronics, hydraulics, engines and the like. Consequently, it's always recommended to consult the manufacturer of each individual component or machine to assure you are taking the right precautions and avoid accidents. This article focuses on steel lifting accessories. On top of considering

the properties of the equipment there is also the human factor with serious risk of injury or even death if even part of the skin is unprotected.

The main challenges for any material in extreme cold temperatures are durability, strength, toughness and brittleness as the properties of the material change when the temperature drops. Lifting equipment is designed to elongate before it breaks, acting as a safety feature as the operator can see that the product is being incorrectly used and can stop the operation before a catastrophic failure. However, as the temperature drops, steel passes through something called "Ductile – Brittle Temperature Transition." As shown in Diagram 1 below, this transition is where the steel becomes more brittle.

The transition temperature is determined by a standardized Charpy Impact test which measures the energy required to break a sample of the steel at

extremes

the design temperature. The transition temperature is important as once a material is cooled below the transition temperature, it has a much greater tendency to shatter on impact instead of bending or deforming. As the steel passes the transition temperature and becomes more brittle the way it will react to a force from a load changes and consequently the way it fractures also shifts. Diagram 2 shows the differences in fracture types, with (a) and (c) showing the extremes and (b) showing a typical fracture of ductile steel under normal conditions.

For the manufacturer, there are several ways of combating the challenges of cold temperature. It starts with the raw material design. The three main factors in the steel design are grain size, carbon content and alloy contents. By decreasing the grain size and carbon content – as well as adding alloys into the material such as nickel, vanadium and manganese – the manufacturer can create a steel that has a low hardness, a high ductility and is resistant against embrittlement in cold temperatures. The production process is also important since the forging, any welding and heat treatment all affect the final characteristics of the product. Certain stainless steels (e.g. 316SS) are also an option – although more costly – as they don't go through a ductile-brittle transition due to the nature of their crystalline structure.

For the person procuring and using the lifting equipment there are also precautions to take:

Make sure that you have the right equipment.

- There are multiple factors that affect the steel's capability to handle cold temperature. Make sure to enquire about the how the manufacturer designed and produced the equipment to handle the temperature.
- Think of the system! The lifting gear might be useful down to -40°F (-40°C) but is the winch, block, crane, rope?
- Don't exceed the limits – such as operational temperature range and capacity – specified by the

Diagram 2: Schematic appearance of fractures. (a) Brittle fracture, (b) Ductile fracture (c) Completely ductile fracture

Source: Wikimedia commons

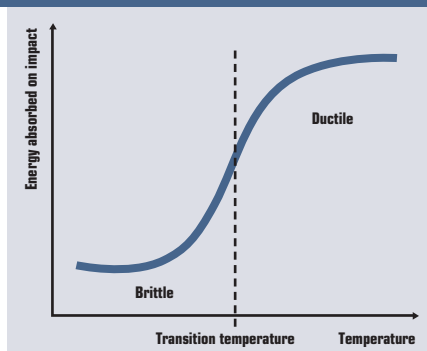


Diagram 1: Ductile-brittle temperature transition. Source: own work, based on comprehensive Structural Integrity, I. Milne, A.R. Dowling, 2003.

manufacturer. If you do so you assume the liability since manufacturer recommendation was not followed.

Consider where the products might end up.

A sling for an offshore container made in Louisiana might end up in the North Sea.

Decrease velocity of lift if possible.

Never shock-load.

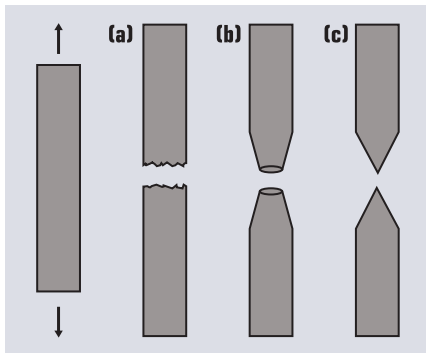
Utilize a qualified engineer to determine if the lifting capacities need to be de-rated for your application and/or assure that the system is suitable in cold environments.

Lifting operations are always hazardous and cold temperatures makes it even more so, for both man and machine, so making sure you have the right equipment and correct operation practices is critical.

Marine environments

When operating in coastal areas and around or in water there are three main challenges: fatigue, corrosion and brittleness. All three factors affect the steel and the interaction amongst them affects the service life of the product.

The risks and effects of brittleness, as well as the precautions, in a marine environment are like those experienced



Always consult the manufacturer to determine the properties or the suitability of equipment being used in marine environments.

in cold temperatures but the sources of the brittleness are different. In a marine environment, brittleness comes from a process, called hydrogen embrittlement. Hydrogen can enter the steel in the steel-making process, through the production process (for example if exposed to acids), through the chemical reaction that takes place during corrosion and through absorption from certain environments. As a result, hydrogen embrittlement might cause unexpected brittle fractures at loads below the stated working load limit. This in turn can result in catastrophic failures of the lifting equipment and potential damage to person and property.

Corrosion is the most obvious challenge in a humid or marine environment. Corrosion is a naturally occurring chemical process where processed steel turns into a more chemically stable form such as an oxide. The corrosion rate is affected by multiple factors such as temperature, depth, currents, salinity, humidity levels, wear and pollutants. ISO 9223 defines levels of corrosion rate from C1 (very low, for example air-conditioned warehouse and certain deserts) to CX (extreme, for example offshore structures in the splash zone). A C1 corrosion rate is less than $0.1\text{ }\mu\text{m/yr}$ (0.004 mils/yr) on a galvanized steel plate and a CX is more than $8.4\text{ }\mu\text{m/yr}$ (0.33 mils/yr), see Table 1 on page 24.

On an uncoated steel surface, the corrosion rate along with wear and erosion can be more than what is outlined in Table 1 on page 24 and will be clearly visible. Apart from changing to a stainless steel, hot dip galvanization (HDG) is one of the most effective ways of protecting

Category	Corrosivity	Typical environments	Rcorr (µm/yr)	85 µm mean coating thickness for steel > 6 mm (years)
C1	Very low	Dry zones with no pollution (certain deserts, AC offices)	$R_{corr} \leq 0.1$	80 < Service life
C2	Low	Temperate zone with minimal pollution rural areas, subarctic climate	$0.1 < R_{corr} \leq 0.7$	80 < Service life
C3	Medium	Temperate zone with medium pollution or some chloride (1-20 miles from coastal areas)	$0.7 < R_{corr} \leq 2.1$	40 < Service life ≤ 80
C4	High	Temperate zone/subtropical with low to high pollution or high chloride effect, less than 1 mile from the coast but out of splash zone	$2.1 < R_{corr} \leq 4.2$	20 < Service life ≤ 40
C5	Very high	Subtropical to tropical, periods of wetness, high pollution, or very high chloride effects, coastal areas	$4.2 < R_{corr} \leq 8.4$	10 < Service life ≤ 20
CX	Extreme	Subtropical to tropical, extended periods of wetness, very high pollution, or significant and extended chloride effect. For example offshore structures within the splash zone	$8.4 < R_{corr} \leq 25$	3.4 < Service life ≤ 10

a steel product against corrosion. It's a more economical alternative. Paint, including zinc rich paints, is typically only functional if the coating is complete and intact, and with the wear and tear of lifting operations they seldom are. For this reason, many products at risk of corroding are hot dip galvanized. HDG also provides additional benefits such as protecting the steel through acting as anode corroding in place of the load bearing steel, easier inspections as there is no risk for corrosion under the coating as well as high impact and wear resistance – whilst still retaining a higher capacity compared to an equivalent product in stainless steel.

The corrosion that takes place in marine environments, in combination with the forces that act on the lifting equipment in operations, can cause stress corrosion cracking. The corrosion takes place in microscopic cracks which can make the lifting equipment seem in good condition on the outside but then cause an unexpected and catastrophic failure. Alloys, which are used in most lifting equipment and especially in conjunction with a high hardness (generally defined as above 41 HRC), are at a higher risk for stress corrosion. One way of reducing the risk for stress corrosion is to choose lifting equipment with a lower hardness. Another factor increasing the risk of stress corrosion and cracking is residual stress in the products. In the lifting industry a common inspection technique is proof testing. Proof testing is by far the best way to detect subsurface cracks that are not detectable through a visual or

magnetic particle inspection. However, during a proof test the lifting equipment is subjected to significant stresses that remain in the material after the load is released and can increase the risk of stress corrosion. One way to combat this for the manufacturer is to add a stress-relieving process, an additional heat treatment after the proof test. However, this is not feasible on certain products and for annual inspections that include proof testing. A good practice is to choose lifting equipment that has been proof tested from the manufacturer – which would show any subsurface cracks – and then refrain from proof testing in the annual inspection as subsurface cracks are unlikely to occur after the manufacturing process.

Material fatigue

The third factor affecting steel in a marine environment is fatigue, which is the weakening of material caused by the repeated action of applying loads. All steel products have some microscopic discontinuity, essentially a crack so small that it cannot be seen with the naked eye. As loads are lifted and unloaded the stresses on the material causes these small cracks to grow and finally reach a critical size where the material fractures. The number of stress cycles (or lifts) a material can handle at a determined load is called the fatigue life. The heavier the load in relation to the maximum capacity of the lifting equipment the fewer cycles the material can handle.

For example, at the breaking load the material can handle half a cycle (loading

but not unloading) and at the working load limit they might be able to handle tens of thousands of cycles. Fatigue life is affected by a number of factors such as surface defects – issues with paint/coating, notches, cracks, gauges – corrosiveness of the environment, properties of the steel (such as high ductility and high impact toughness which can be determined by a Charpy-V test) and the applied load in correlation to breaking strength of the steel. Fatigue resistance will be one of the limiting factors when determining service life of any lifting equipment. Fatiguing will always be a risk in any lifting application, and it can occur at lower load than WLL, especially in harsh environments.

When using lifting equipment in marine environments, coastal areas or other humid environments, consider these workplace safety tips:

- Hardness and Charpy impact values are more important than the grade of the material. A higher-grade material can be more suitable for a marine environment than a lower grade steel, depending on how the product has been designed and the production process.
 - Protection of the products (for example hot dip galvanizing) makes them safer and significantly improves product lifetime and long-term cost.
 - Steel lifting equipment might look similar (e.g. master links). The difference is in the details.
 - Stay safe. Always consider where the products are going to be used, and where they might end up. If operations take place close to the maximum capacity (working load limit) of the product, consider going up one size to increase the overall strength of the equipment. Always follow manufacturers' recommendations (both for liability and safety concerns). Adapt your inspection frequency and procedures for the environment and application. Do not modify (for example galvanize or weld) any lifting equipment that is not designed for it as it can have a severe effect on the mechanical properties the steel as well as transferring the liability to the person or company doing the modification.
- Lifting, even if it's just 50 pounds, is risky. Extreme cold temperatures and marine environments make it even more so. Always take proper consideration in the selection, procurement and use of lifting equipment. Always consult the OEM if you are unsure about the properties or the suitability of the equipment. ■

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Making moves

The market for self-erecting tower cranes in North America continues to evolve as these machines offer versatility and affordability. **Hannah Sundermeyer** reports.

Boasting versatility and aiding a quicker project timeline, self-erecting tower cranes are speedier and more inexpensive to install and operate than many traditional tower and mobile crane solutions. Their erection enables quick, easy movements within the construction site. This adaptability often makes self-erectors the ideal choice for a variety of projects across North America, and this is sentiment is visible across the industry.

“The current market for self-erecting in North America is growing,” said Giulia Natella, vice president, ENG Cranes USA. “Also, in the U.S., real estate companies are beginning to use self-erectors instead of mobile cranes or tower cranes on sites that have a quicker timeline for the construction of five to six floor buildings. The great push in that direction is coming from the market leaders favoring this trend.”

Morrow Equipment demonstrated a Liebherr 81K.1 fast-erecting crane as part of the Lift & Move USA program.



Natella added that over the years, the use of small self-erectors with maximum capacity of up to 4 tons has been more common in regions of the United States such as Colorado and Florida.

“The bigger self-erectors that have more capacity, 6 and 8 tons, are starting to be seen today in many of those states that have an important real estate construction schedule,” said Natella.

ENG Cranes is currently working on the design and engineering of a range of bigger self-erectors with 6 and 8 tons of maximum capacity for the North American market. The launch of ENG’s first model is expected in the second half of 2020.

ACT surveyed leading North American self-erecting tower crane manufacturers for information on their latest and greatest makes and models.

Fast and flexible

Liebherr launched a new fast-erecting crane at this year’s Bauma tradeshow. The 125 K is equipped with a radius of 180 feet, a maximum hook height of 215 feet and is currently the largest fast-erecting crane on the market, the company said.

The 125 K was specially developed for civil engineering requirements such as road traffic, bridges and commercial jobs, as well as industrial building



construction, the company said. In this field, high load capacities and large radii are required for projects with limited lead times. The 125 K has a considerable initial hook height of 96.8 feet as standard. Five tower sections can be additionally inserted to reach a total hook height of 136.2 feet. This means that even major construction projects can be mastered with this machine, the company said. This Liebherr crane has an 8.81-ton maximum load capacity with a 180-foot radius at the jib head and is able to lift 2,866 pounds in conjunction with its Load-Plus function. Its flexibility is also demonstrated by its five radius options, ranging from 115 to 180 feet.

Construction site conditions are becoming increasingly tight and therefore require construction cranes to have compact dimensions to match. With its 10.5-foot slewing radius, the Liebherr 125 K fast-erecting crane is consequently able to fit into very small spaces. Thanks to its variable slewing radius, which can be extended to 13 feet, the amount of transportable ballast can be reduced – which in turn reduces costs.

The Hup 40-30 has a jib of 131 feet and boasts 16 configurations, which is unique to this category of self-erecting tower cranes.



The Liebherr fast-erecting crane 125 K is currently the largest in its class on the market.

Until now, larger fast-erecting cranes could only be transported via semi-trailer. However, Liebherr expanded the transport options allowing the 125 K to be towed on a trailer by a conventional truck through its LiTRAX axle system.

Also shown at ConExpo, Liebherr's most popular fast erecting crane is the 81 K.1. The uses for the 81 K.1 extend from multi-occupancy home building to use for industrial projects. The 81 K.1 is perfect for any site, Liebherr said. Jobs under high-voltage cables or inside buildings are also possible due to its telescoping tower. The lifting capacity curves tailored to the varying jib lengths make the crane one of the most flexible bottom-slewing cranes on the market. The 81 K.1 features a maximum hook height of 132 feet, a maximum lifting capacity of 13,227 pounds, a maximum radius of 157 feet and lifting capacity at the maximum radius of nearly 3,000 pounds.

Potain power

The Potain Hup 40-30 has a jib of 131 feet and boasts 16 configurations, which is unique to this category of self-erecting cranes, enabling it to be easily adapted for a range of jobsite applications. The crane has a maximum capacity of 4.4 tons while it can lift 1.1 tons at its jib end of 131

Making the switch

In early 2019, framing contractor MK Builders based in Paradise, PA converted from using mobile cranes to Potain self-erecting cranes for residential homebuilding operations.

MK Builders has four self-erecting cranes in its fleet: a Potain HDT 80; a Potain Igo T 85 A and two Potain Igo T130s. The company is using them for tasks such as setting floor trusses, wood framing and paneling for residential builds, among other tasks.

MK Builders said the switch resulted in a number of benefits. For example, the company said that the self-erectors are easier to transport to the jobsite and that, once erected, their small footprint enables good access to the rest of the jobsite. Visibility is better and the cranes can be controlled by remote control, MK Builders continued, while fewer crew are required to operate the crane. The greater reach and radius of the self-erectors means that access to all parts of the jobsite is enhanced.

"The fact that you can use the remote control to operate the cranes from anywhere on the jobsite – in the building or on the ground – is the best thing that could have happened for us," said Jacob King, superintendent at MK Builders. "It's all about speed and efficiency. We complete jobs quicker with the tower cranes and with fewer people."



In early 2019, MK Builders switched from using mobile cranes to Potain self-erecting cranes for residential homebuilding operations.

feet. The Hup 40-30 features a telescopic mast for a range of working heights. This design boosts the height under hook attainable by the crane to 84 feet in its low position, and 98 feet when extended to its greatest height. The logistics are also improved, as no extra mast is required to install the crane.

Further versatility is delivered with the crane's luffing jib that offers three positions: horizontal, 10 degrees and 20 degrees. These options give the crane a height under hook range of 65 feet to 131 feet. Shortening or extending the jib is a straightforward operation, with the Hup 40-30 offering convenient configurations for both short and long jib lengths.

Agility on the jobsite is also a key consideration for the range. The Hup 40-30 has a high-performance slewing radius that allows it to be positioned closer to buildings. With a transport package that is 46 feet long when folded, the Hup 40-30 is easy to move from jobsite to jobsite. The Hup 40-30 also features Smart Set-up software for simplified crane erection that is controlled via the crane's remote control. This enables the crane to be erected easily with just one operator, streamlining the installation process, the company said.

While the Hup line is Potain's newest line of self-erecting cranes, the Igo models are also popular.

"The Igo T 85 A, together with the Hup 40-30, are the most used self erectors



The Hup 40-30 can be easily deployed from jobsite to jobsite.

in the U.S.," said Gaël Veillard, North American sales director. "The Igo T 85 A is ideal for small construction sites and tight areas. The variable height telescoping lattice mast from 66 to 75 feet comes standard with the option to add three mast inserts for additional horizontal jib hook height up to 125 feet."

Modernizing the range

Saez Cranes has been launching three to four new crane models every year, including tower and luffing jib cranes. But this year Saez is also working on updating and enhancing its range of self-erectors. The company has started by updating the

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TC TOWER CRANES NORTH AMERICA CONFERENCE & RECEPTION

The next Tower Crane North America Conference will be held June 22-23, 2020 at the Miami Marriott Biscayne Bay. At the 2018 TCNA event, Compass Equipment's Kelly Hadland gave a presentation on the pros of self-erecting tower cranes. To read more about his presentation or register for the 2020 event, visit www.khl-tcna.com

classic H24, H28 and H32 models.

"We have changed their external design and also the electrical side on these cranes, to thoroughly modernize the range, making them more efficient and compliant with the new European regulations," said Juan Ballester, sales, Saez.

The self-erecting crane range will be enhanced with the addition of the H45 hydraulic self-erector, and also with the HT 47.13 telescopic self-erector.

"Working together with our U.S. dealer

Saez is enhancing its range of self-erecting tower cranes for the North American market. Working with its U.S. dealer Creative Lifting, Saez has developed the H45 and the HT 47.13 self-erecting tower cranes.

Creative Lifting, we have developed these two models specifically for the U.S. market," said Ballester. Featuring two-fall technology, the HT 47.13 will have a maximum capacity of 6.6-tons, 154 feet of jib and will be able to lift 2,866 pounds at the tip end. It will also have the option to climb to 124 feet of hook height without derating the load chart.

These specific cranes have been designed to be extremely competitive in the U.S. market.

"The H45 will be the second 45-meter hydraulic crane in the market with 147 feet of jib length, and it will offer many advantages for the U.S. clients, such as hydraulic outriggers, single-phase power, 85 feet of hook height, zoning system and remote diagnosis," said Ballester.

With the launch of these new models, and also relying on the experience and ability of their U.S. dealer Creative Lifting, Saez expects to take at least 30 percent of



the self-erecting crane market share in the U.S.

"We have the huge advantage of having Creative Lifting representing us," said Ballester. "They are the best people in America when it comes to self-erecting cranes."



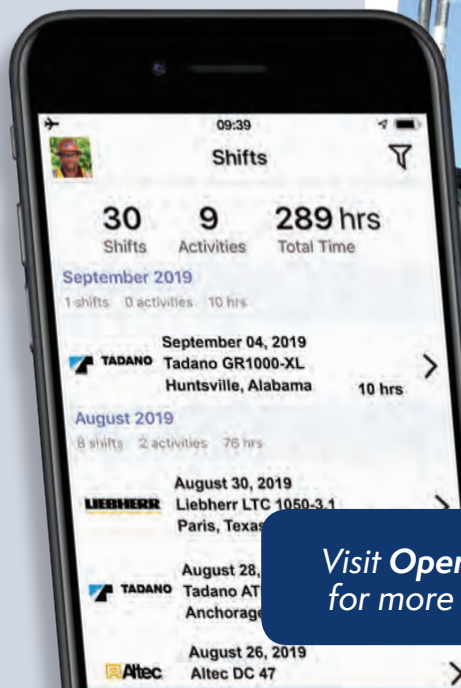
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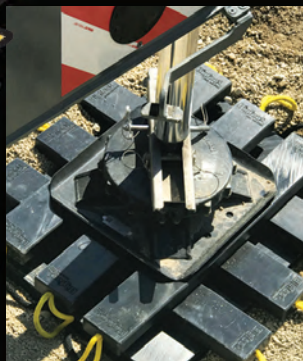
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In tandem

Whether it's two cranes working together to place an object or several cranes working in tandem to perform a massive project, multi-crane jobsites can be complicated.

Multi-crane lifts require precision work on every level – precision engineering, precision crane operation and precision accuracy. Everyday crane operators work together from various crane capacities, models and makes to perform amazing projects.

Cranes working in tandem require a team of dedicated professionals who know what they are doing and who are experienced in managing the risk of huge machines lifting huge payloads. ACT asked polled several companies across North America to tell us about some of their most recent multi-crane projects. We think you will be impressed.

In air hand-off

Working for Granite Construction, Orange, CA-based Mr. Crane was tasked with placing a large pedestrian bridge at the University of California San Diego (UCSD) in La Jolla, CA. The Mr. Crane

Using its Liebherr LTM1400 and Manitowoc 16000, Orange, CA-based Mr. Crane placed a large-scale pedestrian bridge at the University of California San Diego (UCSD) in La Jolla, CA.

team used a Liebherr LTM1400 and a Manitowoc 16000 to pick and set a total of eight pre-cast concrete bridge girders.

The heaviest girders on the job weighed approximately 186,000 pounds and were roughly 200 feet long. The pedestrian bridge needed to span a large wash that runs through campus and would allow students and faculty to easily commute between medical school buildings and newly constructed residence halls. At over 500 feet long, the bridge consists of three spans. The second and center span represented the largest girders.

The length of the bridge and the distance from the pick location off the truck to the set location on the bridge piers and abutments was significant. Staging the girders on the ground became an extremely difficult operation, due to the terrain and lack of work area.

Each girder required an in-air “hand-off” from the first crane, the Liebherr LTM1400, to the second crane, the Manitowoc 16000. The complex rigging that allowed the girders to be passed between the two cranes was made possible by the use of a triangle lifting plate.

The intricate lift was planned and designed by the Mr. Crane engineering team and successfully executed by Mr. Crane operators and ironworkers. This complex requirement highlights the experience and capabilities of the Mr. Crane team, as one of California's largest operated and maintained crane providers, the company said. Mr. Crane has set pre-cast girders on every major freeway in southern California.

“We are proud and pleased with the results, but Mr. Crane would not have been successful without the collaborative cooperation and partnership between Granite Construction, General Contractor



Hensel Phelps, and Owner UCSD,” said Erin Parker, Mr. Crane project manager.

Trestle removal

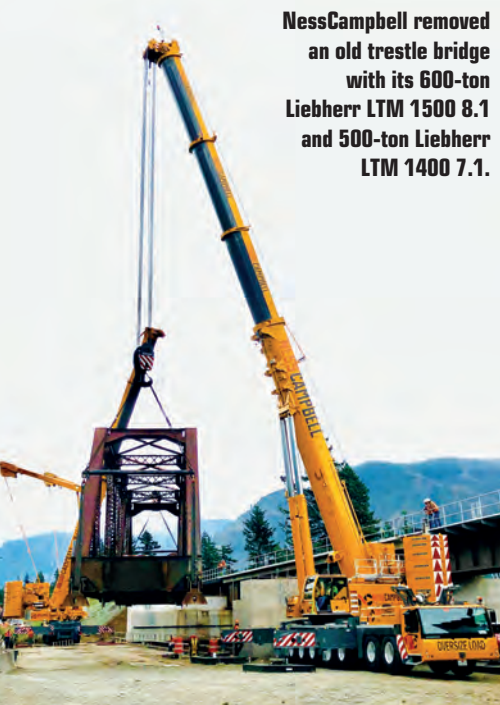
NessCampbell Crane + Rigging was contracted by Hamilton Construction to remove an old trestle bridge in Bonneville, WA. The old bridge was 161 feet long, 22 feet wide and 40 feet tall. It weighed 357,000 pounds.

NessCampbell deployed its 600-ton Liebherr LTM 1500 8.1 rigged with 308,000 pounds of counterweight and rigged with 104 feet of main boom with its Y Guy. Shuan Julian operated this unit.

Mike Ballenger operated NessCampbell's 500-ton Liebherr LTM 1400 7.1, which was rigged with 368,000 pounds of counterweight and rigged with 84 feet of main boom.

NessCampbell Lift Director Jeff Ross and Engineer Drew Alemendi explained that this job was part of the BNSF Railroad improvement work along the Columbia River in Washington and Oregon.

NessCampbell removed an old trestle bridge with its 600-ton Liebherr LTM 1500 8.1 and 500-ton Liebherr LTM 1400 7.1.





Bigge Crane & Rigging supplied seven tower cranes to a general contractor building a state-of-the-art campus for a technology company in Northern California's Silicon Valley.

the next morning. By the afternoon, the cranes were gone and headed back to the yard.

All NessCampbell employees had to have passed the E Rail Safety course and background checks along with the NessCampbell Critical Lift Safety Protocol, Anderson said. Prelift meetings were also held prior to the lift.

"Our Lift Director Jeff Ross planned and directed the lift and was definitely one of the reasons why we were able to perform the lift successfully and safely along with the professional crane crews and riggers," said Anderson.

Logging in

Barnhart's Spokane, WA branch recently completed a four-crane lift of a logging yard gantry crane at a Washington State sawmill. The job required the Barnhart's six crane operator team to lift the logging crane, which had previously been dismantled by another Barnhart branch a year earlier.

The log yard gantry weighed 586,000 pounds and measured 362 feet in length. The crane needed to be lifted to a height of 110 feet.

The logging crane had a challenging center of gravity since one side of the

crane had moment connected legs and the drive chain and the other side did not. This required Barnhart's engineering team to develop a bilateral lifting plan with two cranes accounting for 192,000 pounds of the load and the other two handling 394,000 pounds in weight. The rigging utilized lifting beams placed at the bottom of the logging crane span.

Due to the terrain of the lumber yard, steel mats were a critical part of the set up and rigging of all the cranes, according to Branch Manager Jeremy Shawver.

Cranes deployed for this lift included six cranes: two 55-ton capacity Grove GMK 7550s all terrains, and two 300-ton Demag AC 665 all terrains and two 60-ton capacity Grove RT 760Es. The rough terrain cranes were not hooked up to the main load, but they installed the gantry crane braces.

Shawver said the job planning took six months.

The four legs of the gantry were spread out and the gantry was laying on the ground, Shawver explained.

"As it was lifted up, the legs collapsed, and when it was at the full height, we had to hoist and insert the leg braces and set in the leg braces," he said. "Those were pinned off and so then we could release the load, so it was stable. The smaller cranes installed the braces."

Shawver said Barnhart won the job based on its ability to dispatch six cranes to the site on the exact date requested.

Barnhart had taken the crane down previously in Seattle and then once it was shipped, they performed the assembly and

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"We had about 40 hours of engineering and lift planning mostly because the 600-ton was set up on a work bridge constructed by Hamilton over the waterway and we had to ensure the structure would hold the crane and the bridge once we set it down so we spent a lot of time engineering the exact location of that crane," said John Anderson, president, Ness Campbell. "Besides that challenge, the job went really well."

The NessCampbell team assembled both cranes the day before made the lift



Barnhart's Spokane, WA branch recently completed a four-crane lift of a logging yard gantry crane at a Washington State sawmill.

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re-erection at the jobsite in LeClède, ID, about 70 miles from the Canadian border. The client was Idaho Forest Group.

"It's rare in this region to find a company that has enough large cranes to perform this type of lift," said Shawver. "We used cranes from three different Barnhart branches to accomplish the project. It was only a four-hour job, but it required 38 semi-truckloads to get in to do the job. The challenge was getting the cranes rigged and making sure those six cranes were available that day at 6 a.m."

Silicon lifters

A selection of tower cranes from Bigge Crane & Rigging's fleet have been working on building of a state-of-the-art campus for a technology company in Northern California's Silicon Valley.

Four of the cranes are manufactured by Terex Comedil. The CTT 721Bs are configured with heights under hook ranging from 182 to 300 feet and each are rigged with a jib length of 246 feet.

Also on the jobsite are two Potain MD 689s rigged with heights under hook of 177 feet and 224 feet. Both tower cranes have jib lengths of 213 feet.



W. O. Grubb's Roanoke branch set a 220,000 pound bridge spanning 184 feet over two Norfolk and Southern Railroad lines.

Construction crews are using the cranes to lift and set materials that comprise the massive roof of the structure, a complex web of steel resembling a tent.

The tower cranes are projected to be on the jobsite through the winter of 2020.

Grubb challenge

W.O. Grubb's Roanoke, VA branch was awarded the contract to manage and set a 220,000-pound bridge spanning 184 feet over two Norfolk and Southern railroad lines in Campbell County VA.

Grubb's team utilized two of the company's 6-line Goldhofer self-propelled modular transporters, operated by Grubb

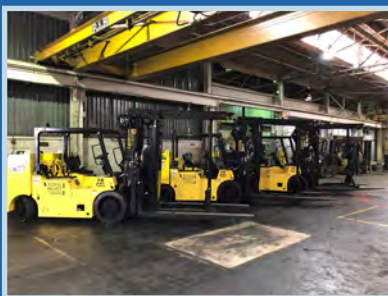
team member Trevor Embree. Also utilized on the job were Grubb's 600-ton capacity Liebherr LTM1500, operated by Chris Macey, and Grubb's new 550-ton Grove GMK-7550, operated by Scott Snead.

The job was completed without incident in one day. There was a third crane on the job, not owned by W.O. Grubb, that assisted with placing counterweights on the bridge and disassembling the additional support structures on the bridge.

The Grubb team termed this a great job performed by its Major Projects Division with assistance from its in-house engineering team. ■

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An invaluable

Simulators are paving the way for the future of crane training technology. **Hannah Sundermeyer** reports.

At a recent Lift & Move USA event, I tried a 3D simulator out for size. I found myself “walking” through a bustling factory with employees swirling by and sparks flying from welders in my peripheral. It was easy to get immersed in the simulation, so much so that I nearly forgot I was outside, standing under a tent, with a headset and headphones on. In this example, the company was using a simulator to allow attendees to virtually tour their factory. An incredible piece of technology, the future of crane training is evolving right before our eyes.

Simulators serve as an alternative that gives instructors the ability to train people in a standard, consistent environment and more frequently. It also allows students to get more seat time on a crane, so they're meeting operator qualifications with more experience and preparedness.

“Simulators are a tremendous asset allowing students of all experience levels to gain hands on experience,” said Tom Zanone, training instructor, WIKA Mobile Control. “Most of the individuals that have attended classes over the years tend to be ‘hands on’ individuals, they learn by

doing. Simulators are an invaluable tool for training within our industry.”

North American Crane Bureau (NACB) offers training, certification and inspection services while NACB Interactive Educational Systems (NACB-ies) serves as the sister company dedicated specifically to designing simulation systems.

“The intimidation factor can be big when you consider the sheer size of a crane,” said Monica McNeill, marketing/production manager, NACB. “A simulator can bridge the gap between intimidation and field work. A simulator eases the person into operation as it reduces that intimidation, and you can build upon the positive aspects. We currently use NACB Interactive Educational Systems simulators in our training.”

It's also important to note that in the crane industry it can be very difficult to provide training on an actual machine when working with a group of five or more students. Crane simulators serve as a solution to this problem.

“A simulator allows more students adequate time to work through hands-on applications,” added Zanone. “As our



Simulator training gives instructors the opportunity to teach operators in a standard, consistent environment.

products have evolved from an indication system into more of a ‘control based’ system, software has a larger impact on troubleshooting. These ‘smart’ systems have greater access to much more pertinent information via the display. A technician is less likely to troubleshoot the system with a voltmeter as opposed to the operating console.”

Virtual training and simulation can also be utilized as a more cost-effective method of educating operators.

“Virtual training provides flexibility to provide training when in different locations with increased participation,” said Bill Mowen, service and aftermarket

Number of available apps in the Apple App Store from 2008 to 2019 (in 1,000s)



Source:
PocketGamer.biz
© Statista 2019

Additional Information:
United States; PocketGamer.biz; July 2008 to July 2019; cumulative

statista

The 411 on VR

Virtual reality, a specific form of simulation, provides an even more immersive approach to today's training methods.

“VR [virtual reality] training and the underlying technologies have progressed significantly in the past 12 months,” said Zack Parnell, president and CEO, Industrial

ITI anticipates that the Oculus Store and Viveport will follow similar growth rates in the number of apps that the Apple App Store experienced from 2008 to present.

tool



CM Labs releases new training pack

CM Labs Simulations, developer of Vortex training simulators, has launched a new Training Pack that includes the industry's only simulated mobile crane tandem lift exercise, as well as a competency demonstration exercise that provides a safe, objective tool for employers to assess crane operator skills. Developed in response to industry demand, CM Labs' tandem lift exercise teaches the lead crane operator how to safely and efficiently maneuver a steel pipe load in tandem with a secondary crane, operated from another simulator connected on the network.

The Mobile Crane Simulator Training Pack's tandem lift feature can be deployed in multiple configurations, with operators working at any combination of CM Labs simulators, including the motion-enabled Vortex Advantage simulator, as well as the portable Vortex Edge Plus. Collaborative learning can be further extended with CM Labs' Signal Person Training Station, which allows a trainee to guide the operation, within a challenging virtual jobsite that includes power lines and jobsite personnel.

The new Mobile Crane Training Pack also allows trainers to fully evaluate operator readiness with an innovative Mobile Crane Skills Assessment exercise. This exercise is the only simulation-based assessment tool to cover advanced lifting techniques, such as performing a blind lift, recovering from a load pendulum, girder lifts and more.



The Mobile Crane Simulator Training Pack's tandem lift feature can be deployed in multiple configurations.

sales manager, WIKI. "This would reduce classroom and travel cost and would also allow larger training groups."

A viable alternative

McNeill went on to describe the benefits of simulator training for situations that are impossible to replicate in a hands-on environment, but can be valuable to have experience in. This pertains particularly to hazardous scenarios.

"It can also be a tool to fine tune skills on operating and preparing them for dangerous situations," said McNeill. "We can increase the hazard conditions; like power lines proximity, wind and

other aspects, with no fear of an actual accident to better prepare the students on how to work under those conditions. Some companies utilize simulation as a pre-hire screening, long-form training during apprenticeship; new-equipment familiarization; and practical assessments. Lastly, simulation is a good way to bridge that gap to the youth and get them interested in crane operations as a career."

As industry technology continues to evolve, it can be expected that simulator training will only become more and more advanced.

"With the advancement of technologies, such as virtual reality, the line is blurred

between the physical and digital," said McNeill. "But there is always the need for hands-on training. Some advantages of virtual training are the ability to design and manipulate scenarios regardless of cost and location. Perhaps one day an operator practices a specific set of procedures, provided by the client, even before construction ground starts."

WIKI's Mowen also suggested that a variety of industries could utilize this technology.

"All markets could provide training – this might be training on product installation, product assembly or product communication setup," he said.

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Training International (ITI). "Thousands of employers have adopted virtual reality for workforce development – organizations as diverse as Walmart, KFC, UPS, the LA Sheriff's Department, as well as construction and industrials such as Bechtel, DPR Construction, Nucor Steel and many more."

Parnell added that many of the hardware deployments for workforce development have been with stand-alone or mobile VR headsets like the Oculus Go. This device, which launched in the past 12 months, is cheaper than its higher-fidelity PC-based VR headsets where setups run about \$2,500.

Training content is also becoming much more widely available. ITI anticipates that the Oculus Store and Viveport (HTC's Virtual Reality store) will follow similar growth rates in the number of apps that the Apple App Store experienced from its launch in 2008 to present (see graph).

The Oculus Store has more than 1,000 applications while HTC's Viveport has over 600.

"A lot of content being used by employers for workforce development – like the training content ITI creates for crane operators and construction personnel – isn't publicly

available on the app stores," said Parnell. "In other words, there is a lot more VR content available than the app stores might suggest."

In addition, the ITI VR Crane Simulation Library has seven crane models and are underway, with their development partner Serious Labs, and external partners, Liebherr and Bechtel, in the development of the Liebherr LR-1300 crawler crane. ITI will be showcasing the LR-1300 simulator at ConExpo 2020. ITI is also testing a VR Crane & Lifting Life Saving Action exam that was built with ExxonMobil to assess contractors on their C&L Life Saving Rule.

Apt apprenticeships

ACT spoke with several companies implementing industry apprenticeships.

A skilled workforce is the backbone to our beloved industry. But it's also becoming increasingly important to recruit the younger generation to keep it strong and steady. Apprenticeship programs in the crane, rigging and transportation sector serve as a solid succession plan for an older workforce and are an incredible alternative to traditional college.

"As with most companies, we have an aging workforce and the apprenticeship program provides a solid career path to train the next generation of leaders in our industry," said Danny Cain, director of safety/risk management, Edwards Moving & Rigging. "Having the opportunity to 'shadow and train' these apprentices, over a three- or four-year period, greatly enhances the company's work culture as well as provides the apprentice with hands on rigging experience and knowledge from some of the top riggers and transportation specialists in the industry."

Earn while you learn

Apprenticeships programs often attract younger people who are not planning on attending a traditional four-year college and would rather start working towards a lifetime career in the industry.

"At Edwards, we aggressively market our program towards the vocational programs in our local high schools," said Cain. "The added benefit for these participants is that they 'earn while they learn a professional trade.' Most college graduates end up with some meaningless degree and a whole



An apprenticeship program provides a company with a succession plan for its older workforce.

lot of debt. Apprentices begin earning a paycheck on day one and as they progress through the mandatory curriculum continue to receive monetary increase in their pay in addition to merit increases."

Cain added that one of the biggest challenges to consider before developing and launching an apprenticeship program is ensuring that a company has 100 percent buy-in from senior management. Everyone must be on board with their commitment to make the program a success. Crew assignments must also be adjusted so participants can be involved in hands on classroom instruction.

"Over the past year and a half of having our apprenticeship program, I have been able to witness firsthand the professional growth with each of our apprentices," said Cain. "Their skillsets in specialized transportation and rigging have dramatically improved, and they are now on their way to be our next generation of leaders. Along with this professional growth comes their confidences in being able to plan accordingly for heavy and complicated lifts. This knowledge allows them to challenge how we execute our work tasks to ensure that they are carried out in a safe and efficient manner. They take pride in doing the job right the first time and making sure that our customers are completely satisfied with the quality of work. It's truly been a win-win program for all parties involved and has provided our apprentices with an incredible lifetime

career opportunity that will have endless rewards in their future."

Training and skills

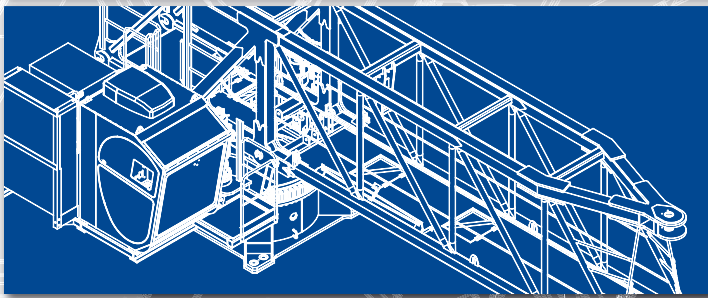
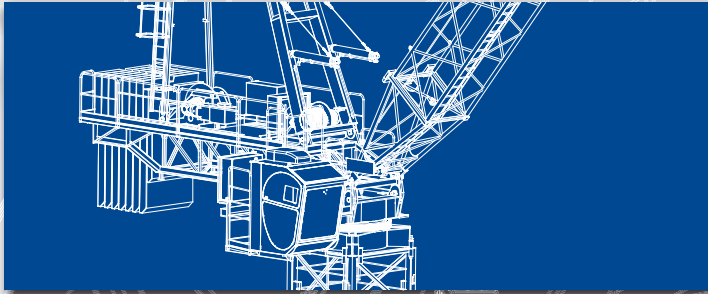
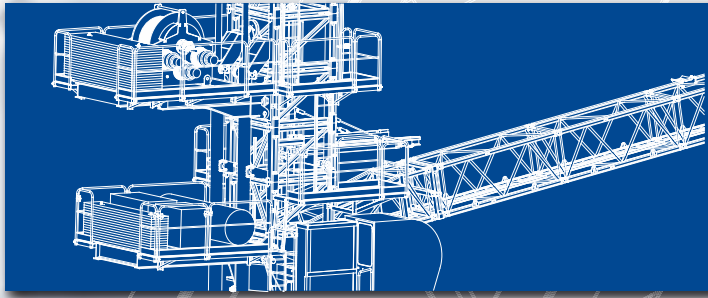
Another key player laying the foundation for apprenticeship programs is Sims Crane. Last spring, the company started the Sims University apprenticeship school at the Sims Crane office in Tampa, FL. The program focuses on preparing and introducing new workers to the crane and rigging trade. The Sims U program helps future apprentices obtain their Class A CDL, basic rigger and signalman certification, in addition to learning the crane operator trade.

"The Sims U program is important for establishing a sustainable future workforce prepared with the necessary training and skills," said Dean Sims II, vice president of marketing, Sims Crane & Equipment. "We have a 66 percent passing rate for the first class (six out of nine) that are currently working here at Sims Crane. Expectations are high and so are the rewards. Our students receive money for living expenses while they are in school, in addition to a \$3,000 contract bonus at the start of the program with a four-year commitment to work for Sims Crane when they complete the training."

The facility also features two virtual reality simulation stations that allow students to practice the basic functions of crane operations in a controlled, safe and simulated environment. The simulators use Oculus Rift and allow the instructor to design scenarios focused on specific skills and tasks students may encounter in the field.



Classes at Sims U take place in a new classroom facility that can accommodate up to 20 students in a modular arrangement.



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Alamo Crane Service beefed up its trailer fleet to haul transformers for the City of San Antonio.

Alamo Crane Service loaded the transformer onto its Cozad Triple 16 trailer at the Port of Galveston.



Texas transformer

Alamo Crane Services performs lifting work throughout Central Texas and the Hill Country. But the company also completes heavy haul work in the region. Alamo operates a fleet of 75 trailers, including a new 120-ton capacity Cozad Triple 16 built to their specifications. Alamo's fleet also includes an 80-ton Cozad self-steer and five 50-ton detachable neck trailers. The company recently added 15 Dorsey floats to its inventory.

"Alamo uses these trailers for moving our own crane parts and pieces, but we also deliver HVAC units, building

parts, power plant turbines, excavating equipment and other over-size and overweight loads including transformers and transformer parts for local utility companies," said Marvin Ohlenbusch, chief operating officer of Alamo Crane Services.

100th transformer

A recent project was the pick up, haul and delivery of the 100th transformer sold to San Antonio City Public Service by SGB of Germany, which is represented by Electrical Technologies of Colorado. Using its new Cozad Triple 16, Alamo

loaded out the transformer from the Port of Galveston. The transformer weighed 90.2 tons and measured 11 feet 4 inches wide, 25 feet 2 inches long and 13 feet 6 inches tall. The length of the transport was 180 feet 7 inches.

Once in San Antonio, Alamo used its Liebherr 500-ton LTM 1400-7.1 all-terrain crane to lift the transformer off the trailer and onto its pad at the power facility.

Alamo Crane Services used its 500-ton capacity LTM 1400-7.1 to lift and place a transformer, the 100th such unit purchased by the City of San Antonio.



The journey from Galveston to San Antonio was about 250 miles along mostly interstate highways.

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Saving the day!

Imperial Crane Services
rushed to the aid of a
Chicago fire truck trapped
in a parking garage.

It's not everyday that an emergency vehicle needs someone to come to its rescue. But Imperial Crane Services was recruited for exactly that. On Tuesday, August 6, 2019, a Chicago fire truck engine became trapped in a second-story parking garage when the floor beneath the vehicle collapsed. The engine's front bumper was the only thing holding the fire truck in place.

To begin the job, the Chicago Fire Department had to remove 500 gallons of water from the truck to ensure the floor wouldn't collapse any further. But due to the engine's remaining weight of 22,000 pounds, a crane was needed to lift the engine out of the hole.

With the fire truck having no lifting point, Imperial decided to use a 20-ton capacity lifting beam. In order to use this beam successfully, Imperial had to turn the beam upside down to be able to pick up the frame of the fire truck underneath while at the same time not crushing the nearby apparatus or the piping. To secure the beam underneath, a tow truck was brought in and Imperial's crane was set up in a parking lot east of the parking garage.

Emergency lift

Imperial utilized its Liebherr LTM 1200-5.1 that was rigged to a 60,000-pound capacity. The spreader beam was rigged to the crane and the fire truck. The lifting team managed to avoid hitting any of the sheet metal or incur roof damage during the lift. Due to weight of the crane, it could not be set up on top of the parking garage. Instead, it was set up on an adjacent parking lot at an 85-foot radius.

In just a few short hours, the team saved the City of Chicago \$500,000



The front bumper was the only thing holding the fire truck in place. (Inset) With the firetruck having no lifting point, Imperial used a 20-ton capacity lifting beam rigged to the bumper.

dollars by removing the engine that was then capable of driving to a repair shop for minor repairs.

From the time of the call to dispatch, the emergency lift was completed in a total of five hours. This also included implementing a lift plan and reviewing the required rigging equipment needed

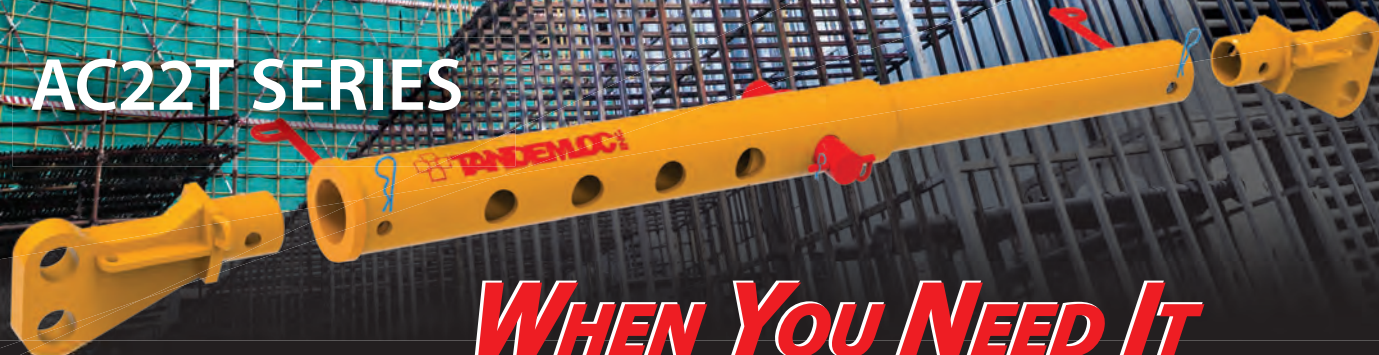
from Lifting Gear Hire (LGH). LGH was able to provide the rigging certification and beams needed in just 45 minutes.

The job was completed safely with no incidents or damage to surrounding property. The onsite team included Fred Hunssinger, Chicago Fire Department director of safety; Fred Pierce, lift director; Mike Redden, crane operator; and Paul Barkei, oiler. ■

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More than 18,000 utility professionals are expected to attend ICUEE, also known as the Demo Expo, in Louisville, KY.

ACT's exclusive show guide to ICUEE.



WHEN

October 1-3, 2019

WHERE

Kentucky Exposition Center, Louisville, KY

HOURS

8:30 a.m. to 5 p.m. Tuesday and Wednesday

8:30 a.m. to 2 p.m. Thursday

SPECIAL EVENT

Thursday, October 3, Bourbon, Beer & Bites Reception, 2 to 3:30 p.m. North Lobby

REGISTRATION INFORMATION:

www.icuee.com

EVENT DETAILS

Bluegrass bonanza!

The utility industry's largest trade show, the International Construction & Utility Equipment Exposition (ICUEE), also known as the Demo Expo, will play host to more than 18,000 visitors who want to see the latest and greatest equipment and services. Featuring indoor and outdoor exhibitions, ICUEE is the leading event for utility and construction contractors seeking comprehensive insights into new technologies, innovations and trends in the electric transmission and distribution, telecom, cable, natural gas, water and wastewater and vegetation management sectors.

ICUEE 2019 will cover more than 30 acres where attendees can participate in hands-on equipment test drives and interactive product demonstrations. This year's show features more than 240 product categories and more than 200 new exhibitors. Their goal is to help attendees find the right jobsite solutions.

ICUEE has been designed to help attendees find ways to increase business efficiencies, stay in the know, compare equipment before buying or renting, discover the latest safety equipment, explore business solutions at the

Emerging Technology Pavilion and discover opportunities for business growth, according to show planners. The show covers equipment, tools and services for all utilities. Of interest to the crane, rigging and specialized transportation sector are new cranes, rigging gear, PPE and safety equipment, trailers, drones/UAVs, electronics, controls and instrumentation, heavy equipment attachments and related jobsite tools.

One of the most popular aspects of ICUEE is the field classrooms that bring educational offerings to the show floor. The Lunch and Learn Workshops feature panel discussions of hot industry topics, including effective applications of drones, the business model for building and maintaining a smart utility infrastructure and workforce development.

ACT's ICUEE show guide, which focuses on equipment and services pertinent to our readership, has been developed for those who attend and those stay at home. Following are the companies that answered our request for information about their exhibits as well as our select list of companies in the crane, rigging and specialized transportation sectors.

Altec Industries

Altec will celebrate its 90th anniversary at ICUEE. The company will announce the launch of the AC30-53T, a tractor-mounted telescopic boom truck crane designed with versatility and jobsite flexibility. The Altec team will also host live demonstrations of the AC30-53T, which offers integral safety features and productivity benefits.

With a 53-foot boom and a maximum lift capacity of 60,000 pounds, the AC30-53T can pick up and transport heavy materials across any distance. Features

>44



Select ICUEE exhibitors

COMPANY	BOOTH NUMBER
Altec Industries	L165, L365, L366, K129, L306
American Cranes & Transport/KHL	3753
American Test Center	4324
Autec North America	3455
Association of Equipment Manufacturers	3340
Axion Structural Innovations	4463
Bigfoot Construction Equipment	3130
Boomtrux	1641
Checkers Safety Group	4206
CICB	2401
CM Labs Simulations	4358
Columbus McKinnon/Magnetek	2142
Cortland Company	4763
Crane Industry Services	4358
Crane Training & Certification of the Midwest	4464
Crane U	4357
Cranes 101 - Crane's Aerial Truck Service	4225
Custom Truck One Source	N3017, L102
DICA USA	3652
Elliott Equipment	L435
Golight	3010
GS Global Resources	3134
Hanes Supply	4252
HBC radiomatic	3552
HED	3308
Hetronic USA	L227
Holloway Houston	4807
International Powered Access Federation	5334
JJ Kane Auctioneers	3406
K-Line Insulators	5508
Kar-Tech	2343
Liftmoore	3755

COMPANY	BOOTH NUMBER
LineWise (by Diversified Products)	4141
Liugong North America	5342
LUBE-A-BOOM	3128
Manitex International	N2019
Manitowoc/Grove/National	N2021
Meritor	L288
NBB Controls	2018
NCCCCO	N2212
Nesco Specialty Rentals	L210
Newpark Mats & Integrate Services	4944
Next Generation Power	5519
North American Crane Bureau Group	3758
Palfinger North America	N2010
Prinoth	N3016
QMC Cranes	4356
Ring Power	L346
Ruthmann North America	N2040
Samson Rope	2844
Sauber Manufacturing	L394
Scanreco AB	3510
Scott Powerline & Utility Equipment	3902
Tadano Mantis	N2002
Talbert Manufacturing	N2007
Tech Safety Lines	3805
Terex	L316
Teufelberger	2817
Timco	N2222
Trail King Industries	N2009
TWG	2464
Viking Mat	4765
Versalift	L116
WIKA Mobile Control	3451
WireCo World Group	2127
Yak Access	5227
Yale Cordage	2934



Autec's Compact wireless control solution.

each other in frequency hopping mode, as they dynamically utilize the working frequencies included in the 915-928 MHz band or 863-870 MHz. The receiver (CRD), 8-30 VDC power supply, offers customizable cabling with the choice of M12 circular connectors, a 10-pin reduced plug or a cable gland. It provides up to 12 analog and 64 digital outputs (available via CANopen interface), 2 STOP outputs, 2 UMFS outputs, 4 programmable MOSFET outputs and 2 CAN outputs. The two CAN outputs allow simultaneous management of CANopen and J1939 protocols. The CRD also has a 4-digit display for diagnostic information.

Bigfoot Construction Equipment

An American manufacturer, Bigfoot specializes in building outrigger pads, cranes mats and cribbing. Bigfoot is the only major manufacturer of both wood and composite ground stabilization products, as well as being the longest in-house manufacturer of custom composite outrigger pads. Bigfoot builds standard outrigger pads as well as custom pads to fit the needs and demands of its customers around the world. Bigfoot offers private labels for some of the largest crane, concrete pump and tree-trimming companies and makes specialty outrigger pads. Bigfoot uses the highest-grade American materials that will outperform other outrigger pads. The custom composite pads are guaranteed for life. An American veteran-owned company, Bigfoot stands behind every outrigger pad it builds. Bigfoot pads and cribbing is built for strength, stability and safety.

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such as a lowest in-class fifth wheel, a low auxiliary outrigger profile and integrated trailer supply hoses make this unit ready to serve as both a go-to crane and heavy-haul tractor. Altec will display a full set of products, including aerial devices, digger derricks and cranes. Altec's equipment line includes steel, aluminum and fiberglass bodies that provide customers a variety of solutions for payload requirements and environmental conditions.

American Cranes & Transport/KHL

The American Cranes & Transport team and our KHL Group colleagues will cover the show all three days, visiting stands,



taking photos, conducting interviews and watching demonstrations. Be sure to stop by the KHL Group stand where you can pick up this issue of ACT as well as the KHL's full portfolio of magazines.

Autec North America

Among the wireless control solutions to be presented by Autec will be the Dynamic+, the company's newest products series

suitable for hydraulic machinery. Autec will also show the new Compact, Link and Curve models. Dynamic+ has a dual-band radio technology and many HMI interfaces, such as the TFT LCD 2.8-inch or 4.3-inch color displays. Transmitting and receiving units communicate with

Bigfoot Construction Equipment manufactures outrigger pads, crane mats and cribbing.





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CM Lab Simulations

CM Labs Simulations, developer of Vortex training simulators, will give ICUEE attendees the opportunity to operate two different simulator platforms. The company will display the immersive Vortex Advantage and the entry-level Vortex Edge Plus simulators. Both simulators can run the company's full catalog of lifting equipment and earthmoving equipment, commonly used by electric utilities and rural electric cooperatives. This includes simulations for boom trucks, mobile cranes, backhoes, excavators and more. The training packs provide exercises for trenching, pipe placement, excavation around utilities and more.

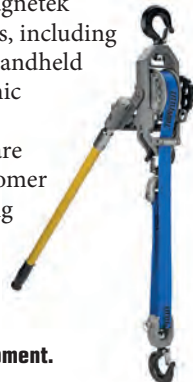
Exhibiting with CM Labs is Crane Industry Services, a training expert serving both construction and utility markets. Crane Industry Services deploys Vortex simulators for crane operator training and qualification.

Columbus McKinnon

Columbus McKinnon, a leading designer and manufacturer of motion control products, technologies and services for material handling, will give attendees the chance to experience Columbus McKinnon's array of hoist and lifting equipment, including the new Little Mule 322C/344C strap hoist and Magnetek brand wireless controls and cable reels.

The Magnetek brand MHR Radio Controller, available as a hands-on demo, combines the components of a radio receiver and hydraulic valve controller into a single convenient unit, saving money and freeing up valuable real estate on a vehicle. Magnetek brand wireless controls, including the MHR, Flex VUE handheld transmitter with graphic display, and the XLTX belly box transmitter are designed to meet customer specifications, reducing internal engineering

Columbus McKinnon will show off an array of its hoist and lifting equipment.



CM Labs will provide attendees the opportunity to experience its simulator training platforms.

and manufacturing costs, improving time to market and enhancing equipment performance.

Custom Truck One Source/Load King

Custom Truck One Source will showcase a large variety of equipment, including aerial

equipment, digger derricks, utility trailers and forestry equipment. But the big attention getter this year is the Load King Stinger line of boom trucks for the first time since the boom truck division was purchased from Terex Cranes.

The company will also showcase the Load King brand of dump bodies, services trucks and trailers. The Stinger 25-92 will be known for its durability and trouble-free operation, the company said. The Load King Stinger 29-92 was designed for lighter lifting and day-to-day usage, the company said. Formerly the Terex BT 5092, the Stinger 25-92 travels at highway speeds and features trouble-free operating features that are easy to use, Load King said. Equipped with a 92 foot, fully synchronous telescopic keel boom, the Stinger 25-92 features a maximum lifting capacity of 25 tons (50,000 pounds) and has a quick-reeving boom head and an electronic rated capacity interior. This new model was designed with

a modular, dual-control console that allows operation from either side of the machine, and the operator can define boundaries for boom rotation, lift and lower. A warning alarm sounds if the boom moves outside the defined area. It features a keel boom design that has four sections. The self-centering design that optimizes strength and delivers performance for high lift capacities at all lift radii.

DICA

DICA will debut a new addition to the ProStack Cribbing product line designed for the types of equipment used in the electrical utility industry. ProStack interlocking cribbing blocks will be on display along with a variety of the company's outrigger pads and crane pads.

The new ProStack Cribbing product is a lighter weight and lower cost solution that was developed with customer input to meet the specific needs of this market. ProStack Cribbing Blocks are an engineered, integrated solution that resolves this critical problem. The interlocking blocks can be stacked for additional height to create a safer set-

DICA's ProStack cribbing blocks will be exhibited.



On show for the first time since the boom truck division was purchased from Terex, the Load King Stinger 25-92 will be an ICUEE highlight.



up than traditional methods. ProStack Cribbing is made from a combination of post-consumer recycled and new materials to produce a strong and reliable finished product that interlocks into a SafetyTech Outrigger Pad.

SafetyTech engineered thermoplastic outrigger pads deliver proven performance, durability and ease of use for setting up mobile cranes, concrete pumpers, aerial lifts and digger derricks, DICA said. For situations that require greater outrigger pad rigidity and stability in a lighter weight solution, the company's FiberMax fiber-reinforced polymer outrigger pads provide an engineered alternative to heavy steel plate or excessive matting materials. FiberMax Crane Pads weigh 60 percent less than typical solutions and are designed for exceptional load distribution, stability and cost-effective operation.

These and other DICA products will be in use at many OEM equipment displays, including Terex, Altec, Dur-A-Lift, Elliott, Hiab, Manitowoc, Skylift, Spiradrill and TIME/Versalift equipment.

Elliott Equipment

Elliott Equipment Company will introduce an all-new tilting crane cab on its model 40142 boom truck. The new cab was designed to provide unobstructed visibility and operator comfort. The 40142 has a state-of-the-art control package, featuring full hydraulic controls monitored by a system that provides essential load information as well as the ability for remote Bluetooth diagnostics and performance tailoring to the operator's preference, according to Elliott. Creature comforts include heat, air-conditioning, heated seat, cupholders, storage space, ease of entry/egress and more.

The 40142 crane has a maximum lifting capacity of 40 tons, 152-foot main boom tip height and 207 feet with its two-stage jib. The 40142 can be equipped with a hydraulic dampened work platform and radio remote controls. The 40142 is also designed for severe duty applications like transmission construction, the 40142 is designed with substantial operator input, to ensure maximum uptime and productivity.

HBC-radiomatic

HBC-radiomatic, a worldwide technology leader in the field of radio remote controls for construction machinery and other industrial equipment, will be presenting



the new generation of their spectrum transmitter series at ICUEE. The renovated spectrum versions will incorporate completely updated radio technology and numerous new features for enhanced safety and operating comfort, including high-performing color

HBC radiomatic will be displaying its new spectrum generation.

displays, additional category 3 PL d safe commands according to EN ISO 13849-1:2015, and new batteries with significantly increased operating times. Additionally, the new larger spectrum 4 transmitter for the control of the most complex machinery will be presented as the latest addition to the spectrum series.

With the new spectrum generation, HBC-radiomatic will continue the success story of their bestselling series, which was first introduced more than 30 years ago, the company said.

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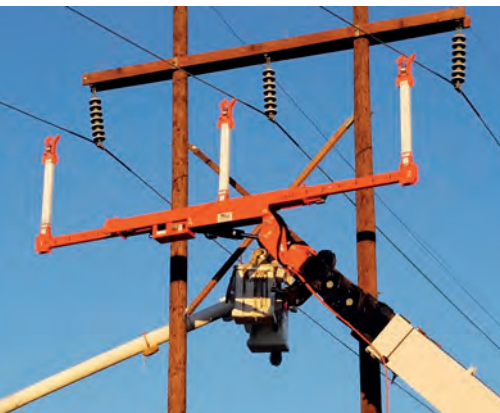
Lube-A-Boom recently launched its Tool Box Series which includes Loose-N-It, a four-in-one industrial lubricant and penetrant containing PTFE; Lube-A-Boom Degreaser, Lube-A-Wipes and Lube-A-Hammer, which was released in September as a hydraulic hammer and chisel paste.

Lube-A-Boom will debut its Lube-A-Boom Insulator, a non-conductive insulating lubricant for equipment that works around power.

Line-Wise

Designed to simplify and shorten the process of supporting three phases of energized conductors, the LineWise TLL-1300 Triple Line Lifter features remote-controlled hydraulic articulation and hydraulic extension and retraction of the outside phases. Using the remote control, the unit can switch from a horizontal to vertical configuration, and the spacing between insulators can be adjusted from 6.5 feet to 14.5 feet to capture the outer conductors. Compared with current methods, reports from the field are showing the TLL-1300 can do the same job in up to 50 percent less time. The TLL-1300 is powered by a separate ground-level hydraulic power unit featuring a 10-horsepower diesel engine. Insulated hoses run from the power unit to the crane boom up to the line lifter.

A division of Diversified Products, Linewise designs, engineers and manufactures line lifters, insulated work



Lube-A-Boom has unveiled its Tool Box Series.



Manitex's articulating crane line MAC will feature the MAC 47.5 knuckle boom crane.

platforms, phase lifters, transmission temporary conductor supports and the Buddy Bushing transmission hardware reinforcement system.

Manitex International

Manitex has been participating at ICUEE for more than 30 years. ICUEE is the perfect place for the company to launch new products, and this year is no exception. Manitex will add a new model to the TC series line of truck-mounted cranes, the TC600. The TC600 is rated at 60-tons with a maximum main boom tip height of 141 feet.

Along with the TC600 Manitex will exhibit the A62 truck-mounted aerial work platform. The A62 can reach a max working height of 62 feet with a max platform payload of 550 pounds in the basket.

Manitex's articulating crane line MAC will feature the MAC 47.5 knuckle boom crane. Manitex's articulating crane products combine the versatility of a knuckle boom crane and the dependability of the Manitex brand to bring a highly engineered machine to get the job done.

Manitowoc/Grove/National

Manitowoc Cranes will showcase a trio of cranes that thrive in utilities applications, the Grove GHC30 telescoping crawler crane and a pair of National Crane boom trucks: the NTC55L and NBT30H-2 TM.

The Grove GHC30 has a full-power, three-section 83-foot telescoping boom allowing operators to handle a variety of lifts at various radii, and because of its use of crawler tracks to maneuver, users don't have to set outriggers for lifts, saving time

The TLL-1300 can be powered utilizing a crane or boom truck's hydraulics instead of the hydraulic power unit.



The Grove GHC30 telecrawler will be rigged with a pole claw and auger.

on the jobsite. The GHC30 on display will be outfitted with pole claw and auger attachments. When equipped with the auger and pole claw, the crane is adept at off-loading, lifting and installing utility poles.

The National Crane NTC55L features a 55-ton capacity and 151-foot boom. The truck crane "replacement" can maneuver into the tight working quarters typically reserved for a truck crane, but it has the added roadability of a boom truck that in many cases can increase efficiency and versatility for utility workers, the company said. In addition to the utility sector, the NTC55L is ideal for a wide variety of applications, such as commercial construction, steel erection or HVAC installation. The key to the NTC55L's versatility is its ability to set up with a reduced 20-foot outrigger span typically seen in truck crane applications. The NTC55L boasts standard features, such as hoist and rear-facing cameras for increased job site visibility, and a wireless windspeed indicator integrated into the crane cab display.

The National Crane NBT30H-2 TM, a 30-ton capacity boom truck with a 69-foot boom, is designed for use on a short wheelbase "tractor" style chassis. This boom truck configuration allows for hauling a trailer to and from the jobsite for delivering various materials to be used in utility applications. Additionally, the NBT30H-2 TM is viable for everyday taxi crane service due to the Federal Bridge Law compliant chassis configuration. The NBT30H-2 TM offers 360-degree stability, with and without the trailer attached, thanks to the out and down main outriggers and stabilizers, as well as a fully integrated heavy-duty front outrigger; all of which can be used with full, mid and retracted span chart configurations.

NCCCO

From crane and rigging safety demos in NCCCO's Lift Safety Zone to written NCCCO exam administrations, NCCCO will be promoting crane safety and



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NCCCO will be promoting crane safety and the benefits of crane and rigger certification.

the benefits of NCCCO crane and rigger certification. Subject matter experts will be available throughout the show to answer questions about all NCCCO programs, as well as how OSHA requirements – including the final personnel qualifications crane rule published last November – impact the utility industry. Qualified attendees will have an opportunity to try their hands on the controls of a service truck crane courtesy of Liftmoore Truck Cranes and to test their skills on an NCCCO practical exam course. Attendees are also invited to enter a drawing for a die-cast metal model of a Terex crane. To register for written NCCCO certification or recertification exams – to be held on Wednesday, October 2, at 8 a.m. – please contact Kim Qualls at kqualls@nccco.org.

Palfinger

Palfinger will feature its highly regarded TEC cranes with the new P-Profile patented boom system. Palfinger's HPSC add-on module recalculates and defines the working range and stability of the crane, and its patented AOS system dampens the boom system of the crane, compensating for vibration and shock.

Scott Powerline and Utility Equipment

For nearly two decades, Scott Powerline has partnered with manufacturers to

Palfinger will feature its TEC cranes with the new P-Profile patented boom system.

develop and provide its customers with the equipment needed to get their jobs done safely and efficiently. The company will display the new PowerTraxx RT18 rubber-tracked vehicle, which features joystick steering, back-up/rear view camera, 7-inch color touch screen display with instrument readouts, troubleshooting/fault code readings and diagnostic capabilities. The PowerTraxx RT18 is a 95,000-pound GVWR vehicle with a ground pressure of approximately 6.0 psi. It has payload capacity of 50,000 pounds and is powered by a 350 HP Cummins T4F turbo diesel engine.

The ICUEE unit is equipped with the industry-leading Terex TM125 insulated aerial device – the RT18 can also be mounted with 45 to 50-ton cranes as well as a vast array of other large construction devices.

Tadano Mantis

Tadano Mantis will exhibit two of its GTC Series telescopic crawler cranes that are very popular machines in the powerline sector. The 88-ton GTC-800 will be on display, and the newest addition to the GTC Series – the 50-ton capacity GTC-500 – will make its trade show debut in Louisville.

The GTC-500 features a 4-section full power boom that allows continuous telescoping with load to the maximum extended length of 113 feet 10 inches. The GTC-500 has an operating weight of 103,900 pounds, so it can ship in one standard truckload.

An optional Heavy Configuration Counterweight (HCC) package provides increased lifting performance at longer radiuses, the company said.



The Tadano Mantis GTC-500 telescopic crawler makes its tradeshow debut at ICUEE.



The GTC-800 is the largest sub-100-ton teleboom crawler on the market and features a full power, 5-section 37-foot 8 inch to 141-foot 1-inch hydraulic boom. The main boom is complemented by a 33.1 foot/58.1 foot bi-fold jib. A new 22,500-pound standard counterweight configuration is being introduced on the GTC-800. Providing additional flexibility for users, this configuration allows for two-truck transport while maintaining maximum rated capacity. Both the GTC-800 and GTC-500 are equipped with Opti-Width, allowing for limitless combinations of symmetric and asymmetric track extension positions with no requirement for pinning track widths at fixed points.

Talbert

Talbert team members will be on hand to discuss the company's most recent trailer developments, including updates to the AC3-25, AC-20-ART tag-a-long trailer and 35FG-BVTL. Talbert will launch a new Air Ramp (Air) Tilt Series for easy loading of low-clearance equipment. The series includes the 20-ton capacity AC-20-ART and 25-ton capacity AC3-25-ART. The units air controls provide additional operator safety when raising and lowering the trailer for loading, and its low deck height offers a superior view of the equipment and surroundings.

The series features Talbert's lowest load >52



Talbert Manufacturing's AC3-25-ART, the newest Air Ramp (Air) Tilt Series trailer model, features an ultra-low load angle of 7 degrees with a 33-inch deck height.



angle, 7 degrees, for easily loading and unloading equipment weighing as much as 25 tons. Operators use the trailer's controls, which uses air power to fill bags near the front of the trailer to raise the deck and lower the ramps to the ground. The air-powered ramps eliminate handling heavy ramps and using cranes or other equipment to position loads.

Operators drive equipment over the 38-inch-wide, high-density Apitong wood-filled ramps and onto the trailer deck. The unit's wheels rest on the gripped floor plates over the trailer wheels for weight balance. Once the equipment is loaded, operators use the controls to return the ramps to the upright position.

Trail King

Trail King will provide information and answers on the full line of Trail King trailers, including the following models that will be on display at the show: A TK80SA+ AdvantagePlus! SlidingTail Trailer, featuring a tilting main deck with 6.5 degree loading angle, 15 degree dump angle and a 30,000 pound hydraulic winch; A TKT50LP Tilt Trailer, featuring



Trail King will display several trailers pertinent to the utility equipment industry.

a 12 degree load angle, 30-foot overall deck, dual air locks operated with a single switch, 25,000 single 2-speed and air operated approach plates; and A TKT16U Tilt Utility Trailer, featuring a 22-foot deck, two pair of d-rings on stationary and four pair on tilt deck, 8,000 pound electric brake axles and bolt-on lockable tool box lid and fork holders.

WIKI Mobile Control

WIKI Mobile Control (formerly Hirschmann/PAT) provides operator aids, control systems, upgrades and sensors including load moment indicators, wireless/wired load, angle and anti-two block systems for mobile cranes. The qSCALE 1x LMI features simplified

calibration, and superior HMI graphic interface with 4.3-inch and 7-inch color display options. Also, on display is the PRS90 wireless/hardwired multi-sensor indicator that monitors & displays up to 8 sensors at one time.

WMC will also feature the cSCALE for use in any application from monitoring standard to custom control solutions. These systems and sensors meet OEM & retrofit requirements in lifting applications.

The WIKI qSCALE 1x LMI features simplified calibration and several display options.





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New outlook, same message

Despite a fluctuating economy, safety, training and contract management remain as essential as ever.

According to a number of expert sources, including the Association of Equipment Manufacturers, the close-to-record-setting economic growth that the country has been experiencing for the last 100-plus months – which is the second-longest period of economic expansion in the nation's history – appears to be poised for a slowdown and plateau.

AEM wrote back in May that they don't feel there's reason to believe the ag and construction sectors will experience a downturn in the coming months, but they do agree with The American Institute of Architects Chief Economist Kermit Baker, Hon. AIA, PhD, who said that even though the economy has been performing very well recently, "trends in business confidence scores are red flags that suggest a slowdown is likely for 2020. These signals may be temporary responses to negative short-term conditions, but historically they have preceded a more widespread downturn."

Invest in safety/training

Last October, in an article similar to this one, we discussed what it meant from a safety standpoint to be in the midst of a busier construction season while having more people working on a job site. Our advice was simple: spend more time thinking about safety and risk management and make intentional decisions to invest in training.

The reality of the American economy is that it's going to fluctuate. We'll have upticks and downturns and plateaus, which means construction work will be

The economy will have upticks and downturns and plateaus, which means construction work will be busier or slower or stay the same.

busier or slower or stay the same. But regardless of what the economic forecast is, and regardless of what the economic reality is, the message that you'll hear from us here at NBIS won't change: strive to be safer; adequately train your employees; be aware of the language in the contracts you're signing.

A month ago, Billy Smith published a column in this magazine called "Three Thoughts On Risk Management for Q3." In it, he unpacked three different topics, two of which I'm going to reiterate here.

Avoid a contract crisis

Perhaps you think you've heard it all before. Perhaps you think your contracts are ironclad. Perhaps you even think you're exempt from having to think about this. No matter how you approach the issue of contracts, they're one of the most important topics to think about when it comes to protecting your business. Laws are changing. Lawyers are everywhere. And there's substantial risk in having the wrong language in your invoice, job or rental ticket and lease agreement. The right language can help you transfer liability to the appropriate party while making sure you're reimbursed for any expenses you incur. Avoid a contract crisis by making sure a team of trained professionals is providing you with the appropriate state-specific language.

Use downtime to train

There's never a wrong time to implement training, and you can never do too much of it. Properly training employees is a key element in reducing accidents and exposure to risk. It's also one of the primary ways you can positively affect your insurance loss history, which, in turn, is one of the primary ways you can save money during your insurance renewal.

As Bill Smith wrote last month,



“No matter how you approach the issue of contracts, they're one of the most important topics to think about when it comes to protecting your business.”

“OSHA requires that training be conducted, documented and continuous. Many times, companies are so busy working that training is done much too briefly – in a tool box talk most of the time – and seldom done in a more formal setting. Sometimes, companies skip it altogether. Other companies don't invest in training because they feel like it's not worth the financial risk since employees may ultimately choose to leave.”

At NBIS, we know that any company that doesn't invest in training because they feel like it's too much financial risk is likely going to be a company with losses attached to their name. It's certainly not the only factor, but many of the injuries and near-misses that occur on jobsites could be prevented if only the company would have invested in more – and better – training.

As we move toward the end of the year and into 2020, remember that regardless of what happens with the economic forecast, sticking to the basics of training, reviewing your contracts and investing in safety will always pay dividends. ■



THE AUTHOR

Bill Tepe is president of NBIS, a full service provider of property and casualty insurance and risk management for the crane and related

specialized transport industries.

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AN INSIDE VIEW ON EUROPE'S BIGGEST PROJECT: HINKLEY POINT C NUCLEAR POWER STATION

Ashley Daniels, head of lifting & temporary works, Hinkley Point C, EDF Energy, and **Garrick Nisbet**, head of lifting assurance, Notus Heavy Lift Solutions and lifting manager, Hinkley Point C.

TRENDS IN THE GLOBAL ENERGY SECTOR

Diederick Nelissen, partner, McKinsey & Company

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Gert Hendrickx, sales director Projects, Sarens NV

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Avoiding fraud

Don't end up on the wrong side of a racket.

While the construction industry isn't necessarily at the top of the list for businesses affected by fraudulent acts, it certainly isn't untouched. Industry experts analyzing the numbers connected to fraud by employees and subcontractors point out that over five percent of annual industry revenue is lost to fraud. U.S. construction brings in collective annual revenues of over a trillion dollars; five percent of a trillion or more is colossal.

A lot of the fraud associated with construction comes via corruption, which damages a company and its affiliates, and often ends up as attractive headlines for media platforms – which can add further damage to your brand. After that: billing and/or accounts-payable-related scams. Between the three, they comprise around 80 percent of construction fraud cases.

What can we do to prevent it – or at least get in the way of it? The Association of Certified Fraud Examiners (ACFE) lists red flags to look out for to identify folks (employees) who might be involved in scams: They have personal or business-related financial difficulties; they exhibit an unusually close relationship with a subcontractor or vendor; they display an unwillingness to share duties and insist on maintaining a great deal of control; and they practice a “wheeler dealer” approach to negotiating and making deals.

Oddly enough, ACFE also reveals that nearly 90 percent of those who engage in fraud have no prior record. Why? Because employers are often hesitant to bring charges for fear of publicity. Also, pursuing

those charges and recovering stolen funds/information/equipment can be expensive.

Moreover, red flags can be raised in situations where: an unsuccessful bidder is doing contract work; the same firm is winning bids for one project after another; excessive change orders are submitted; there is a lack of competition in the bidding process; and poor workmanship requires rework.

ACFE also indicates that the majority of occupational frauds across multiple industries are committed by staff at the employee or managerial level, most often in accounting, operations, sales and executive or upper management. Not surprisingly, the higher the fraudster's authority level, the greater the losses. Overall, more than half were with their firms for more than five years. Ultimately, billing and corruption schemes ranked among the three most common forms of fraud. In construction, these schemes can take a number of forms: corruption, bidding and billing.

Early detection

The benefits of various fraud prevention efforts and early detection are clear: Proactive methods (such as reviewing a contractor's financial capabilities and pricing) result in earlier detection and lower median losses than more passive methods (such as tips, notification by law enforcement or external audits) can achieve. Consider these early detection practices:

ESTABLISH AND ENFORCE CONTROLS:

Controls include surveillance and

monitoring, internal audits and management reviews. Utilize an evaluation committee with objective members for the bidding process. Segregate duties when handling sensitive information. Enforce an anti-fraud culture with training, support and consequences if needed.

DEFINE WORK COSTS: Within the contract, include a provision that defines all costs compensated for by the owner, including what is allowable and what is not.

IDENTIFY INSURANCE COSTS: You should clearly understand what is being charged and why. It's a complicated issue – and both parties can find themselves overpaying.

AUDIT THROUGHOUT: Make sure all negotiated costs and contracts include a right-to-audit clause (external and internal). Internal audits should be conducted by either experienced internal audit staff or outsourced auditors with experience in construction audits.

UTILIZE TECHNOLOGY: Modern fraud-detection software tools like Viewpoint, Textura, TradeTapp, Assemble and PlanGrid provide extra layers of internal systems protection that will ultimately save you time, money and, perhaps, reputation if you find yourself on the wrong side of a racket. ■

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Ramping it up in 2020

Specialized Carriers and Rigging Foundation sets new strategy moving forward.

Launched in 1986 as a nonprofit arm of SC&RA designed to provide industry research and scholarships to member-company individuals for assistance with college tuition and training fees, SC&RF (Specialized Carriers and Rigging Foundation) has since awarded more than \$470,000 to folks pursuing such education, and over \$300,000 to research-based initiatives.

Guided by a board of directors and committees comprised of volunteers, the Foundation's overall mission is to serve the crane, rigging and specialized transport industry, support workforce development, provide educational assistance and conduct research to advance growth and opportunities within the industry. On the heels of an extremely productive 2019 that has seen SC&RF organize, streamline and focus its processes – while also providing 21 scholarships and 15 grants – SC&RF has aligned itself with the Association's new five-year strategic plan, and committed to “ramping up” across the board in 2020.

“2019 was certainly a continuation of

the scholarships and grants, but we saw growth in the PIE (Partners in Education) program as well – via in-kind donations and training programs that we can award, valuing more than \$25,000,” said Jackie Roskos, director of both the Foundation and the Ladies Group. “We also wanted to drill down and evaluate programs as we further develop our strategy for 2020, aligning with the Association's emphasis on workforce development.”

To that end, the Foundation's activities are guided by its own strategic plan, which identifies its core interests, key strategies and objectives, and when appropriate, directs the approach to evaluating the effectiveness of its work. SC&RF generally undertakes a review and update of its strategic plan every four to six years, with the most recent plan completed in 2019 – which resulted in changes to the Foundation's approach and philanthropic model.

The new plan (2019-2023) outlines objectives that include expanding SC&RF's role as a workforce development advocate through Lift & Move USA (Lift & Move), educational giving and awareness activities and best practice retention. It also aims to produce advocacy-driven research to benefit the Association and members. It seeks to build and reinforce strategic alliances with like organizations to promote workforce development. It's focused on developing strategic communications and branding campaigns to increase awareness of the organization throughout the industry, while also stabilizing funding for

Lift & Move USA will now fall under the SC&RF umbrella, allowing members to support it as a 501 (c) (3) organization.

“The top priority is to support the Association in its workforce development focus, and the grants and scholarships function

represents how SC&RF will contribute to that.”

DAVE WITTMER, SC&RF President



grants and scholarships. It also targets analyzing, reorganizing and restructuring committees and bylaws to meet five-year objectives.

“Mirroring the Association's strategic plan with SC&RA's anchor funding for Lift & Move USA, the new Foundation strategic plan has a very strong emphasis on workforce development. All the programs are being evaluated for 2020 to refocus on that direction and how it supports a workforce pipeline for industry members,” Roskos added.

Nuts and bolts

Current SC&RF President, Dave Wittmer, noted that the five-year plan represents a very collaborative, diligent, well-thought-out initiative. “The top priority is to support the Association in its workforce development focus, and the grants and scholarships function represents how SC&RF will contribute to that,” he said. “We also want to become recognized as an industry research leader; the Foundation's 2018 ATRI study [Assessing the cost and operational impacts of state practices for minimum quad axle weights granted for routine over-weight permits] is a good example. However, we will also lead the industry in creating meaningful, industry-driven research projects.”

Roskos added, “We funded the



“We wanted to drill down and evaluate programs as we further develop our strategy for 2020, aligning with the Association's emphasis on workforce development.”

JACKIE ROSKOS, director of the Foundation and the Ladies Group



We're really going



to focus on the
nuts and bolts
of the workforce
looking ahead,
and I think
that will put a

good razor's edge on how

we want to operate. ”

GEOFFREY DAVIS,
vice president, SC&R Foundation

ATRI [American Transportation Research Institute] study, which was incorporated into the SC&RA UPT2021 initiative and provides key conclusions for the Association to advocate for harmonization to DOT and other officials. The research opened up conversations and helped states to consider some changes.”

According to Roskos, the Foundation's research function in 2020 will be very much advocacy-driven. “We're committed to delivering research that the Association can take and use to advocate on behalf of its members, and we've spent this year getting everything in order – what proposals we'd be considering from a research standpoint for next year, and where the program is going to grow or be enhanced.”

Foundation Vice President, Geoffrey Davis, noted: “In addition to the ATRI study, we do the Financial Benchmark every three years, as well as develop the communications tools (apps and other awareness studies) that not only builds awareness but provides education. The next round of research that we're looking to put together is going to specifically feature our industry, our workforce: what it takes, how we've penetrated, where we've had successes as member companies and how to better coordinate that outreach with Lift & Move awareness activities. We're really going to focus on the nuts and bolts of the workforce looking ahead, and I think that will put a good razor's edge on how we want to operate.”

Part of putting all of those nuts and bolts into practice to supplement the aforementioned ramp up includes the creation of marketing kits, explained former Foundation president and current board member, Jim Sever. “These can be sent to member companies purposefully to introduce them to the Foundation (what it is and what it does). Too many members don't know there is a Foundation, why it exists and what its overall purpose is. These kits of information should provide meaningful understanding, and intrigue members to learn more about SC&RF and/or become engaged.”

It should also be noted that SC&RF rolled out a new logo last month as part of

the overall plan to tie its operational goals to the larger mission and articulate its identity for the years ahead.

Collective strength

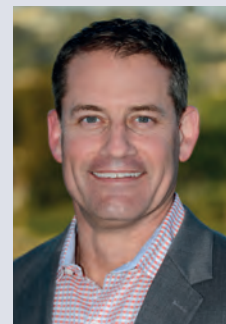
Sever sees the Foundation and the Association uniting in a way that allows for transparency while at the same time, “... establishing value for the overall membership by creating opportunities for the next generation of labor to truly gain an understanding of the careers available to them.”

Lift & Move USA will boast a governing group made up of individuals from SC&RA, NCCCO, the Foundation and KHL, as well as key industry members. “Collectively, this group will be responsible for the vision to grow and develop Lift & Move in order to orchestrate events that generate awareness of career opportunities not just with candidates (students), but with school administrators, educators, guidance



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meaningful understanding,
and intrigue members to
learn more
about SC&RF
and/or become
engaged. ”

**JIM SEVER, former
Foundation president and
current board member**



counselors and related advisors,” emphasized Sever.

Roskos maintained, “Bringing Lift & Move under the Foundation provides members and sponsors of the events the advantage of being able to support it as a 501(c)(3). That's one of the largest benefits. And it will still be funded principally by SC&RA and managed by Tracy Bennett. Lift & Move USA already has several events laid out for 2020; the goal is to have four events a year, with additional exposure at specific trade shows or events. Ultimately, we want to provide an opportunity where any SC&RA members could produce and deliver a similar event with the help of materials and guidance from the Foundation.” ■

Get involved

While the Foundation is supported by SC&RA, it is solely funded by individual and corporate donations and fundraising. All donations are tax-deductible and go toward ongoing initiatives, including industry-specific research, workforce development, education, scholarships and grants.

Individual and corporate contributors are recognized throughout the year at various SC&RA events, in the newsletter and on the website. “If you're in the industry, have a passion and want it to grow and succeed, this is one way you can reinvest in the future of the industry and your company overall,” stressed Roskos. “Ultimately, that's what the Foundation and Association are doing together – both driven to cultivate and maintain this mission.”

For more information, visit www.scr-foundation.org.



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CONEXPO 2020 EDUCATION FOCUS:

Responsibilities of onsite personnel for cranes

The national consensus standard for cranes (ASME B30) has made enormous strides in recent years in defining the responsibilities of on-site personnel. Although these responsibilities were defined in order to make the worksite a safer place, many employees and employers are unaware of their various responsibilities.

This presentation by industry expert, Thom Sickelsteel, formerly president of Sickelsteel Cranes and now CEO of NCCCO, will focus on the different responsibilities of individuals on the jobsite, what their roles are and what training and qualification is necessary to meet the requirements.

Safe worksites have clear work rules and delegation of responsibilities, he said. "For more than 10 years, the industry safety standards for cranes have established roles and responsibilities for the Site Supervisor, Crane User, Crane Owner, Lift Director and Operator. However, many of the sites that utilize cranes do not address these roles or responsibilities in their contracts,

Safe worksites have clear rules and responsibilities that employers need to know.

their processes, or with their vendors," Sickelsteel said.

Unfortunately, these roles and responsibilities did not make their way into the recently finalized OSHA crane rule (most of the federal language was finalized years before the B30 standard that addressed this issue was published). Moreover, the ASME standard continues to be updated with respect to the roles of rigger, signalperson, site safety supervisor and general contractor. So how do employers align the two?

For those wondering whether to attend his session, Sickelsteel has this to say: "Cranes have among the highest regulation and most strict industry safety standards for any piece of equipment on the jobsite. In a little over 40 minutes, we'll aim to provide the latest information in the changing landscape



of responsibilities for crane operations. Attendees will go away with a comprehensive understanding of their roles, the roles of others and how to comply not just with the OSHA rules, but with the best practices industry has to offer." ■

OSHA Director Ketcham to keynote at industry forum

Director of OSHA's Directorate of Construction, Scott Ketcham, will provide the keynote presentation at the forthcoming *Industry Forum on Personnel Qualifications*.

The *Forum*, the fourth of its kind to be held since the inaugural event in 2015, is being presented by the NCCCO Foundation and hosted by the International Union of Operating Engineers (IUOE) at its brand new, state-of-the-art Training and Education Center just outside Houston in Crosby, Texas on Thursday, October 24, 2019.



"We are absolutely delighted that Director Ketcham has accepted our invitation to present at this event," said NCCCO Foundation CEO, Graham Brent.

"His participation could not have come at a more important time for the crane industry as employers grapple with the meaning and intent of their new responsibilities to evaluate and qualify their operators."

Attendance at the *Forum* is free of charge thanks to the generosity of event sponsors, but registration (at nccco.org/IF4) is required, where a full agenda is also posted. ■

NCCCO receives Workforce Development Award from ANSI

The American National Standards Institute (ANSI) has awarded its inaugural **Workforce Development and Innovation Award** to NCCCO.

In announcing the award, the ANSI Board of Directors Awards Committee cited NCCCO's "many contributions to the ANSI Federation and the voluntary standardization community" noting that the award "recognizes exemplary accredited credentialing bodies that significantly impact workforce development in the United States."

NCCCO CEO, Thom Sickelsteel, noted that NCCCO was "delighted" to receive the award. "Conferring of this award on NCCCO is a recognition of the efforts this organization has made over recent years to expand its activities into workforce development initiatives, as well as to engage entities already prominent in this field," he said.

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Salt named Wolffkran CEO

Duncan Salt has been promoted to chief executive officer of tower crane manufacturer and rental firm Wolffkran Holding. Salt was previously head of sales and service and will take the CEO title from Peter Schiefer, who will retain his position as delegate of the board of directors.

"We have grown immensely



Duncan Salt

since then and have reached a point where it is no longer feasible, nor in the interest of the company, for one person to head the executive management, while at the same time

fulfilling the duties of the delegate of the board," said Schiefer. "In order to position ourselves best for the future and successfully continue

growing our business, we need to enhance our organizational set-up now."

"My goal is to drive the symbiosis between lifting services and crane technology," said Salt. "We are uniquely placed at Wolffkran, and through a greater emphasis on our common goals we will position Wolffkran at the forefront of our industry setting benchmarks in service, quality and innovation." ■



■ Hy-Brid Lifts appointed **Derek Koontz** as the Mid-Atlantic territory

manager. Koontz will cover Kentucky, Maryland, North Carolina, Ohio, South Carolina, Tennessee, Virginia and West Virginia. In his new role, Koontz will focus on continuing the growth and channel development of Hy-Brid Lifts' lightweight low-level scissor lifts.

Henderson heads Talbert's dealer team

Talbert Manufacturing has welcomed David Henderson as dealer development manager. With the expansion of its Liberty, NC, facility earlier this year, Talbert created the position to support its growing dealer network. Henderson works closely with dealers and Talbert's regional

sales managers to develop and grow the company's recognition across the U.S. and Canada. Henderson joins Talbert with nearly 30 years of experience in the heavy truck and equipment industry.



David Henderson

His previous role was territory manager and OEM sales for Patz Corporation. "Growth has been a constant theme for me," Henderson said. "I enjoy the challenge that comes with growing sales,

networks and relationships. Every situation is different but finding the right solution for a customer or dealer is always rewarding. I'm looking forward to working with Talbert to build long-lasting dealer relationships through one-on-one support and industry-leading products." ■

Daseke retirement evolves leadership

Specialized transport and logistics company Daseke announced that Don Daseke has retired from his role as CEO with immediate effect. The company's board of directors has appointed Chris



Chris Easter

Easter, Daseke's chief operating officer, to act as interim CEO until a replacement can be found.

Daseke will work with Easter, who joined the company in January of this year, in an advisory

capacity to ensure a smooth transition. The retiring CEO has also stepped down as chairman of the board of directors and will now hold the position of chairman emeritus on the company's board.



Don Daseke

"I am incredibly proud of what we have built over the last decade," said Daseke. "Daseke remains a truly unique company, with a platform designed to support future growth on

both the top and bottom lines. I am leaving the company in the hands of a very strong and deep leadership team across the organization. Investing in people has always been my guiding principle and we have invested in this team, which makes me very confident that they will help Daseke achieve its full potential."

Daseke said it is the largest flatbed and specialized transportation and logistics company in North America. ■

Berry Contracting names new CEO

Edward Martin, who has served as the CEO and president of Berry Contracting for 21 years, has announced his retirement. During his tenure, Martin was responsible for expanding the company to operate internationally and employ over 3,500 people. Martin will continue to serve Berry Contracting in a leadership position as a member of its Board of Directors.



Edward Martin

The Berry family selected Keith Ackley to succeed Martin as CEO and president of Berry Contracting. With over 30 years of management and engineering experience in the industrial field, Ackley will be relocating from Houston to Corpus Christi in his new role. Ackley has extensive experience in managing organizations and large projects at both the U.S. and international level. Ackley's most recent role was senior vice president of major projects at Worley Parsons, and prior to that he served as a vice president at KBR for 30 years. Ackley is a professional engineer and a graduate of the University of Maine.

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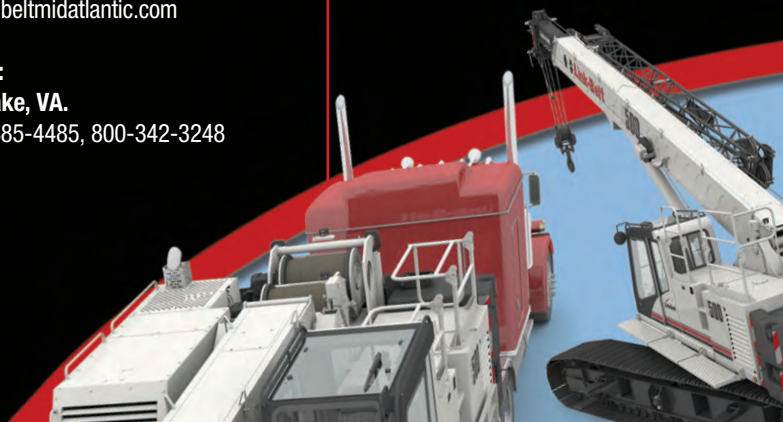
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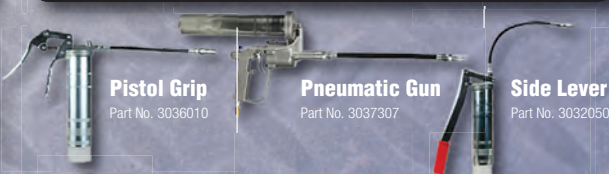
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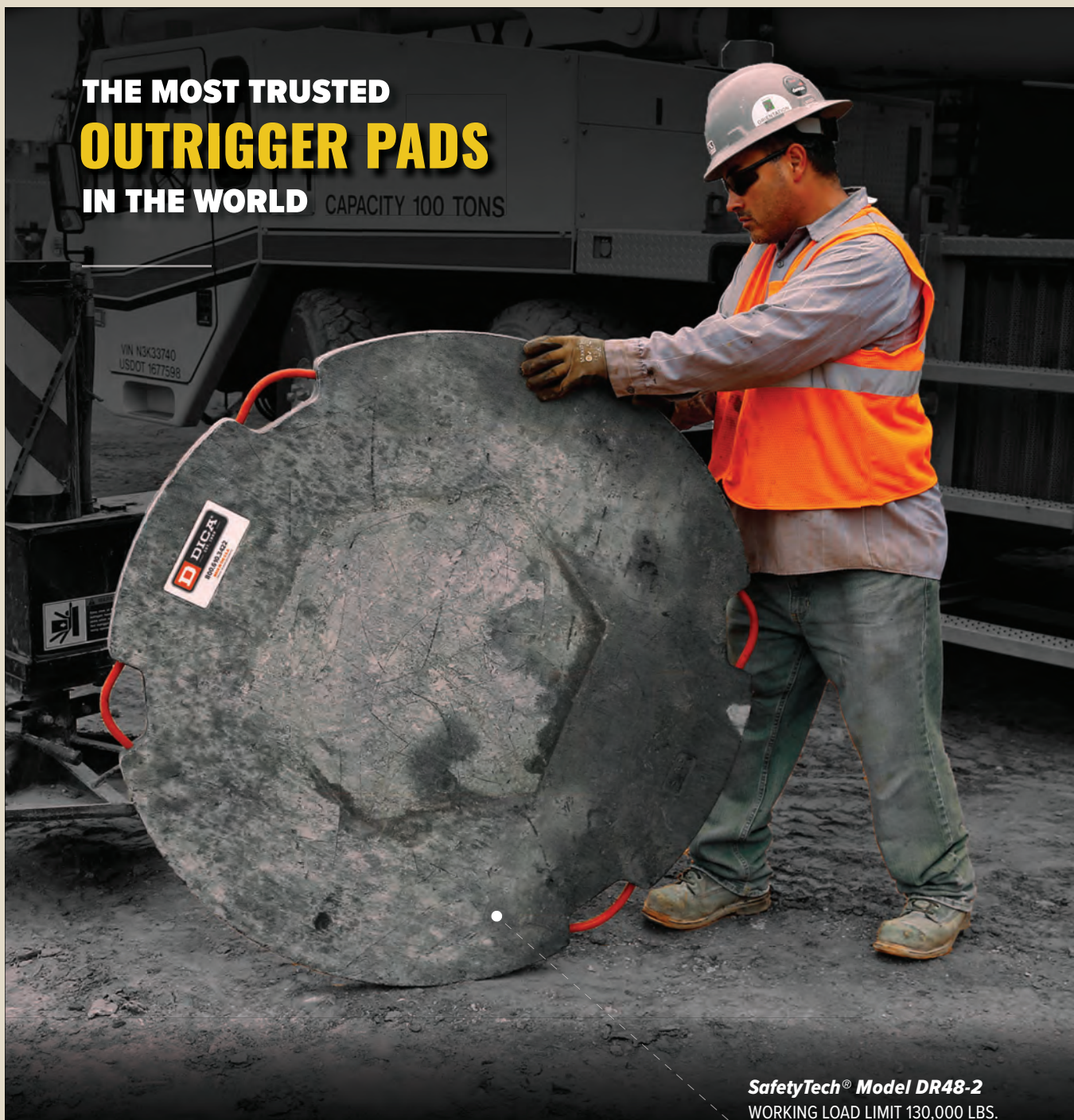
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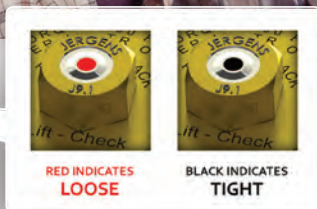
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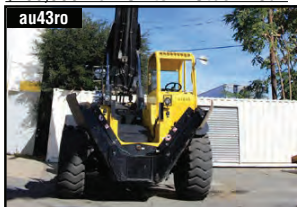
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Engine: Cummins



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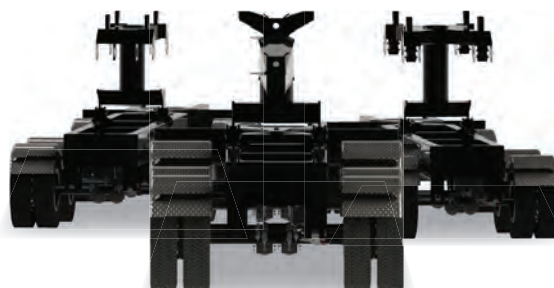
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Exposed

Preventing chemical exposure requires education and training.

In August of this year, OSHA announced its renewed partnership with the Global Cold Chain Alliance (GCCA) and reinforced their continued mutual commitment to reducing ammonia exposure for workers. Though ammonia exposure is fairly specific to the food processing industry, it falls under the Hazardous Chemical Handling header, which crane and rigging operations encounter. In fact, crane and rigging operations can face ammonia exposure in petrochemical facilities, cold storage warehouses, wineries and even breweries – all of which the heavy construction industry gets involved in to some degree.

According to OSHA, American workers use tens of thousands of chemicals every day. These chemicals, and other toxic substances, pose a variety of health threats to workers, ranging from irritation and carcinogenicity to physical hazards like flammability and corrosion.

There are three main elements involved in hazardous chemical exposure: elimination/substitution; communication and training; and controlling hazards. OSHA contends that workers suffer more than 190,000 illnesses and 50,000 deaths annually that are related in some way to chemical exposures. Here are three ways to make certain your workers aren't among those numbers.

1 GET RID OF IT OR SWAP IT OUT. Where it's possible to do so, the best way to reduce worker exposure is to eliminate the threat altogether via substitution. If a less harmful or toxic substance could be used in place of what is currently being implemented, a substitution should be made.

2 CLEAR AND CONSTANT COMMUNICATION IS KEY. The first thing to consider when addressing worker exposure to hazardous chemicals is OSHA's Hazard Communication Standard (HCS), which is designed to ensure that information about chemical and toxic substance hazards in the workplace and related protective



For more information please visit
www.osha.gov/dsg/annotated-pels

“ Pose a variety of health threats to workers, ranging from irritation and carcinogenicity to physical hazards like flammability and corrosion. ”

measures is communicated to workers.

Information about the identities and hazards of the chemicals must be available and understandable to workers. Labels and safety data sheets are crucial, and chemicals must always be kept in properly labeled containers. If chemicals must be handled by workers, anyone who might come into contact with them should be trained in the proper ways to do so.

3 CONTROL THE THREAT TO REDUCE THE THREAT. OSHA's longstanding policy says that engineering and work practice controls must be the main method for reducing employee exposure to toxic chemicals. Some examples of controls include process changes that minimize contact with hazardous chemicals, fume hood use, job assignment rotation and isolating or enclosing processes that involve chemical exposure.

THE AUTHOR



Bill Smith executive vice president, NBIS, is an expert on risk management and safe crane operations. He was a member of C-DAC, which assisted writing the OSHA Crane & Derricks Standard.

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